HELUKABEL®

Cables, Wires & Accessories for

RAIL VEHICLES

Ed. 2 // EN

Channeling POWER

HELUKABEL® & HUBER+SUHNER

Dear Ladies and Gentlemen,

HELUKABEL and HUBER+SUHNER have been working together on KANBAN solutions for the rail industry for several years. Due to our successful cooperation, we formed an even closer partnership and HELUKABEL was nominated as a sales partner for RADOX® cables.

As a leading supplier of cables and cable systems, HUBER+SUHNER offers application-specific connection solutions for the construction of modern rail vehicles and their related infrastructure. The products are developed specifically for the needs of the railway market and are based on high frequency, low frequency and fibre optic solutions.

HELUKABEL has several locations in Germany, Austria and Switzerland, as well as in over 37 countries worldwide, and is one of the leading providers of logistics solutions for cables and wires. The high availability of a broad range of products combined with highly automated logistics processes enable short-term deliveries and a high level of service.

The strengths of HUBER+SUHNER and HELUKABEL combined allow for numerous advantages to customers:

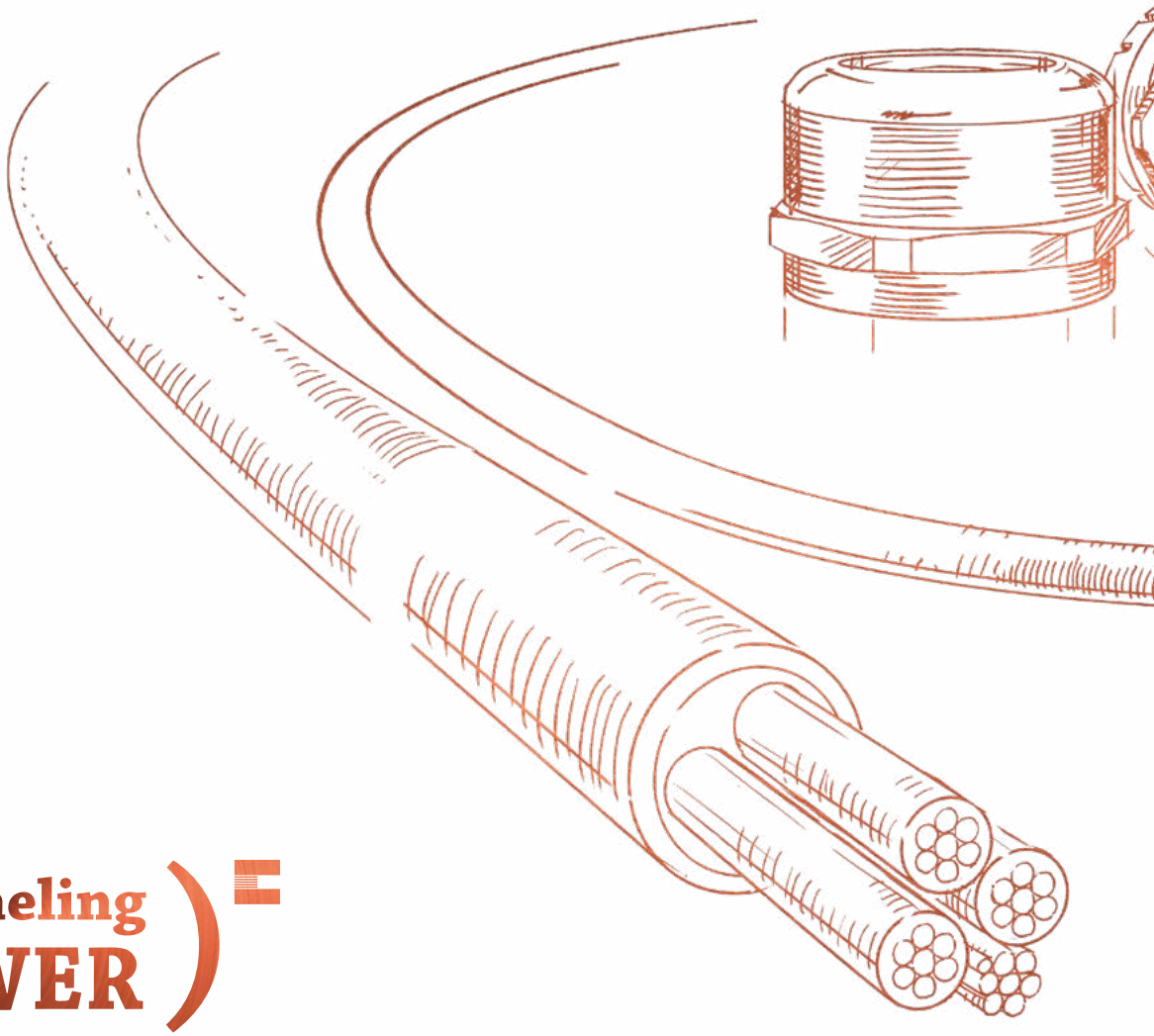
- Complete product range for rail vehicles and rail infrastructure
- No minimum production quantities
- 3 million metres of RADOX® cables immediately available from stock
- Cut to length service for smaller quantities
- Customised logistics solutions
- Worldwide service and availability

HUBER+SUHNER and HELUKABEL. A partnership for greater customer satisfaction.

We look forward to meeting you.

HUBER+SUHNER HELUKABEL®

Content



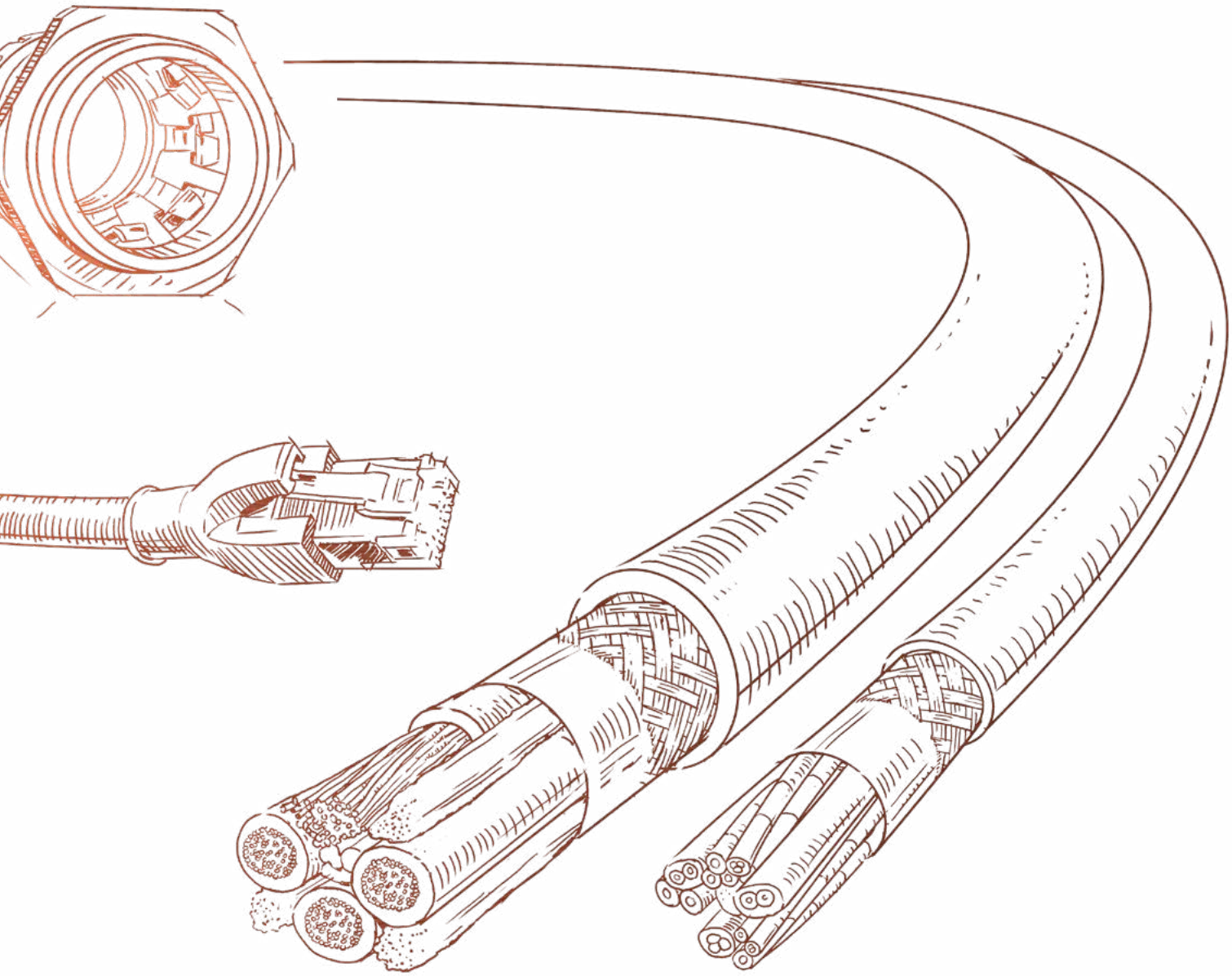
Channeling POWER

Cables are the vital supply lines of complex machines, plants, and systems. Whether operating under extreme mechanical stress, in the middle of the Arctic Ocean, in the scorching heat, or in the vastness of space – such conditions demonstrate what top-of-the-line cables can achieve.

We at HELUKABEL have made it our mission to bring energy and communication to our customers' destinations reliably and consistently at all times, and to make the impossible, possible!

Over 1,900 employees located at 60 sites across 37 countries work towards this common goal. We see it as our challenge to find the right cable solution for you every day, giving you the time to concentrate on more important things than cables and wires. This is where our products truly create value for you and your application.

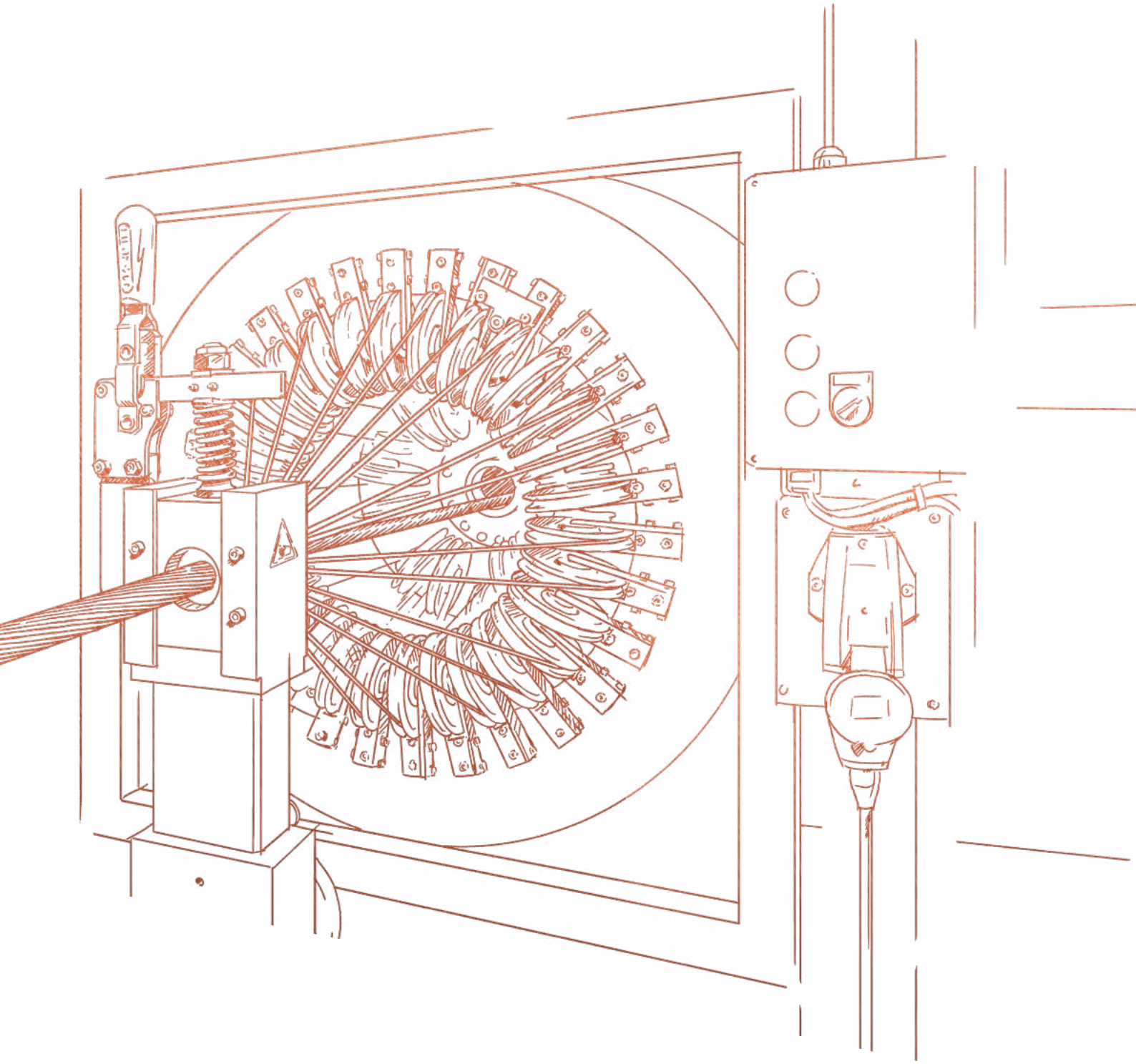
"Channeling Power" succinctly summarizes this mission and is our commitment to customers.

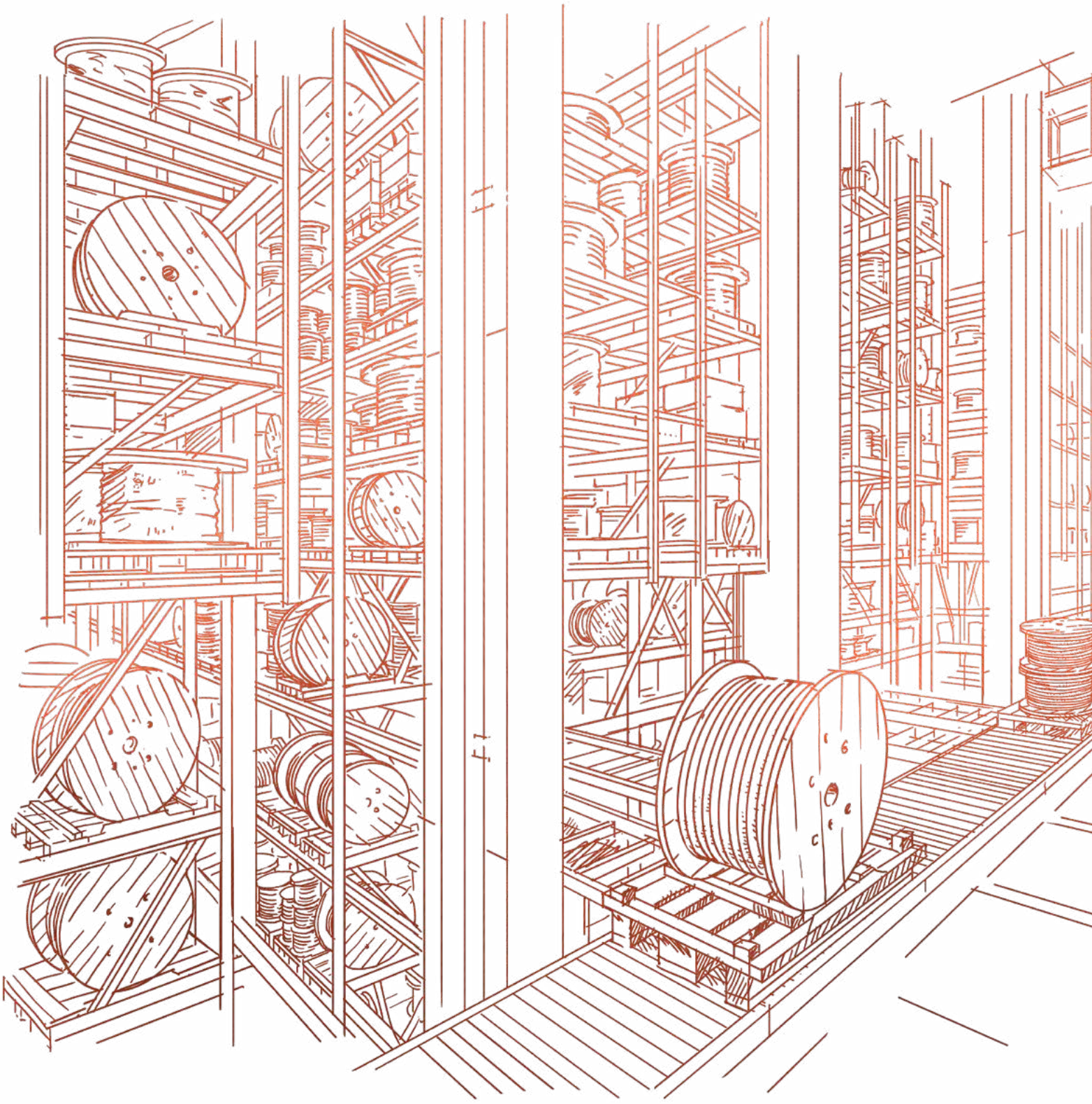


Channeling INNOVATION

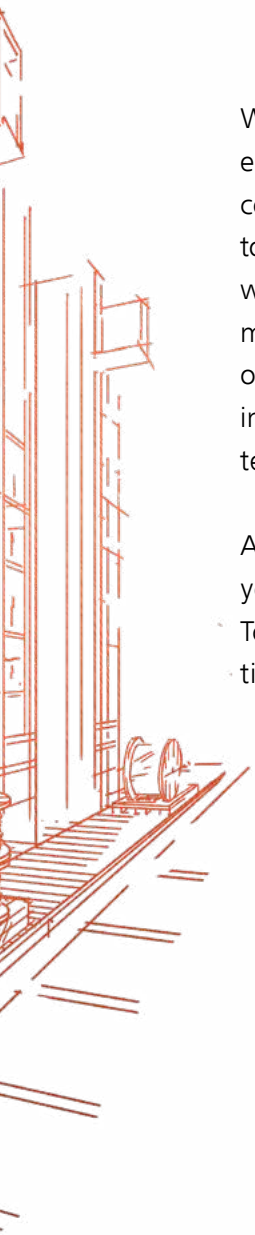
A cable is only as good as the minds that ask the right questions before it's made. We have a lot of bright minds at HELUKABEL who spend every day searching for intelligent answers.
This is important because the challenges faced by modern cables and wires are multifaceted: for example, moving applications with more than ten million cycles, exposure to extreme mechanical and chemical loads, tricky bending radii and space-saving hybrid solutions. For each situation, HELUKABEL has answers to help you.

To ensure there are no issues during use, all newly developed products undergo rigorous testing at our R&D centre in Windsbach, near Nuremberg. Here we bend, pull, grind and ignite the cable for all it's worth. Our special aging ovens are time machines that simulate a cable's life cycle and far beyond. Our cables are tested to comply with national and international standards, and all results are signed and sealed.





Channeling LOGISTICS

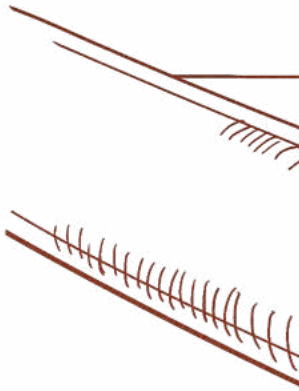


Where there's no cable there's no data nor electricity. When everything's going according to plan, cables are of little interest to anyone; but inevitability the day comes when a machine starts malfunctioning or a missing cable is holding up the completion of a project task. Whatever the situation in which problems occur, the time can be tense and critical for everyone involved.

At HELUKABEL, we try to remove the stress you're experiencing as quickly as possible. To this end, we built the biggest distribution centre for cable products in Europe.

With over 33,000 products stored in a fully automated, high-bay warehouse, we're ready to act upon your needs quickly and ship you the right cable at a moment's notice. Our "known shipper" status with the Federal Office of Civil Aviation means that your goods are checked in and pass security control directly at our warehouse, which speeds up the shipment process. On top of this, we have 33 additional warehouses on 5 continents so you can order your cables in Spanish, French, Chinese or in 24 other languages.

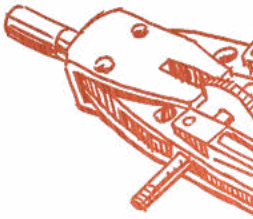
Channeling KNOW-HOW



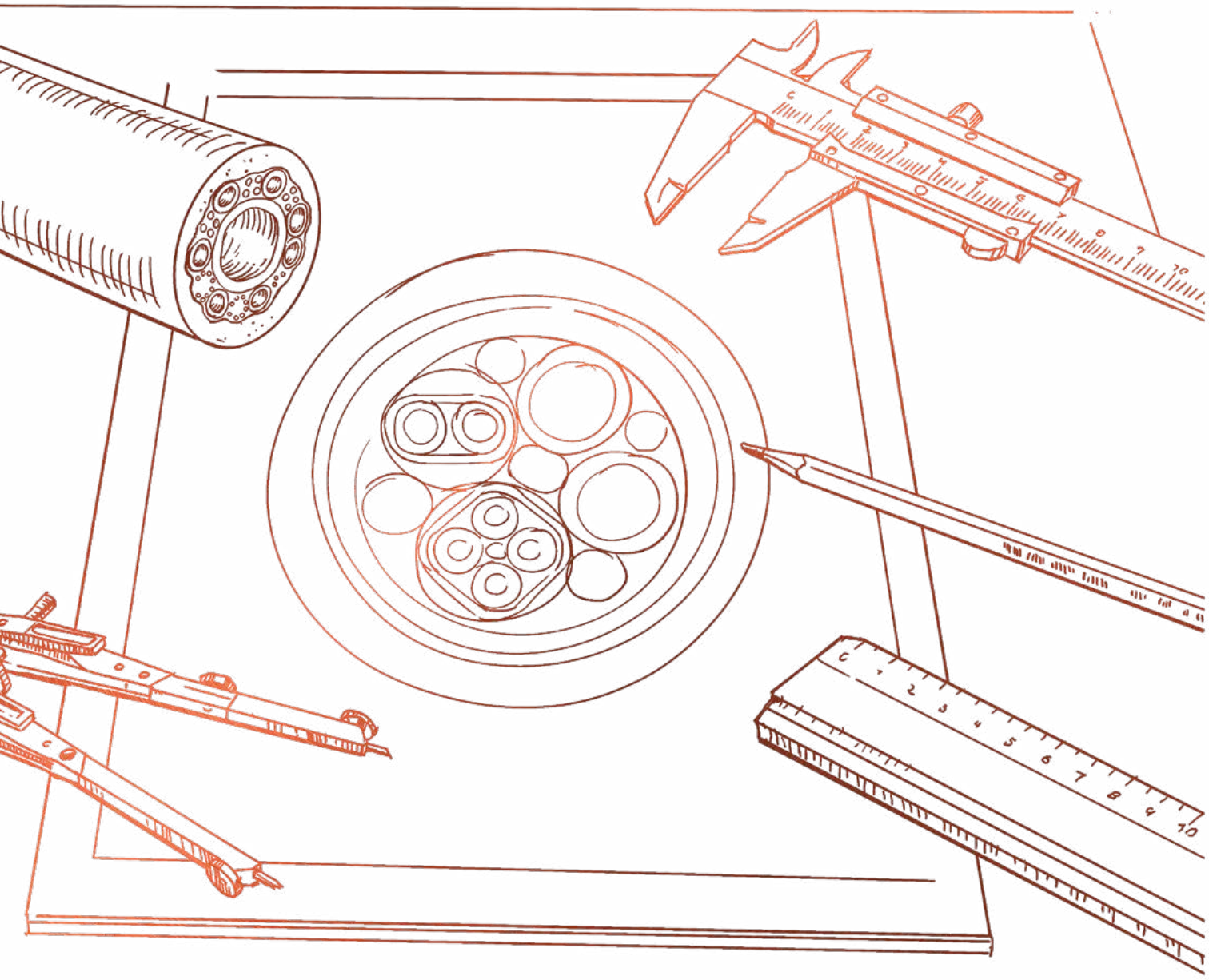
We are mighty proud of our portfolio of more than 33,000 stock items - and yet, among all these products, it still happens that a customer does not find the right solution for a specific application. Luckily, we have a strong backup plan for cases like these: HELUKABEL has in-house experienced specialists who can develop the optimum connection solution precisely tailored to your needs.

Depending on which electrical, chemical and mechanical properties your cable must fulfil in practice, we carefully determine all the parameters: from the cross-section of the conductor and its structure to the insulation and arrangement of the indivi dual elements in the cable, to the shielding and outer sheath.

Only when a special cable truly meets all requirements are our engineers fully satisfied - so that you will be too. It's with this approach that we develop reliable solutions together with our customers, even for complex and unusual situations.



In such instances, the results range from small and inconspicuous to great and spectacular: special cables from HELUKABEL can be found, for example, in aerial ladders on fire engines, in sewer robots, tunnel boring machines, on oil platforms or in wind power and biogas plants. After all, when it comes to cables, wires and accessories, there's almost nothing we can't do.



RADOX® Railway Cables

What does "RADOX" mean?

The registered trademark RADOX® from HUBER+SUHNER represents electron beam cross-linked insulating materials. RADOX® insulation offers excellent resistance to thermal, chemical, electrical and mechanical stresses.

Advantages of RADOX® materials

RADOX® materials do not melt at extremely high temperatures and remain dimensionally stable even in the event of a short circuit. RADOX® railway cables only require reduced wall thicknesses due to their excellent insulation properties. As a result, space requirements and cable weight are massively reduced. The RADOX® railway cable series was successfully tested according to the European cable standards EN 50264 and EN 50306 and the standards GOST 20.57.406-81, method 204-1 as well as GOST 17491-80. This ensures an additional safety factor for the customer.

Temperature range RADOX® railway cable

-50 °C tested in laboratories
+120 °C with a service life of 20 000 hours

Insulation and sheath materials according to European cable standards

The European cable standards specify demanding requirements for mechanical, thermal, chemical and fire protection properties. The specifications regarding fire protection are described in the respective cable standards EN 50264 and EN 50306 as well as in the fire protection standard EN 45545-2.
The halogen-free, electron beam cross-linked RADOX® materials meet the highest requirements (M) of the respective standard or hazard level (HL3).

Properties

- particularly low temperature
- particularly oil-resistant
- particularly fuel resistant

Requirements

-40 °C
IRM 902, 24 h/72 h, 100 °C (duration depends on cable standard 24 h = EN 50306-2)
IRM 903, 168 h, 70 °C

			N	A	D	S
	Operating class	**Construction class**	**Standard Vehicles**	**Automatic drive mode**	**Double deck**	**Sleeper**
1	**No underground sections, immediate side evacuation possible**		HL 1	HL 1	HL 1	HL 2
2	**Underground sections, side evacuation possible in a short time**		HL 2	HL 2	HL 2	HL 2
3	**Underground sections, side evacuation possible after a longer period of time**		HL 2	HL 2	HL 2	HL 3
4	**Underground sections, no side evacuation possible**		HL 3	HL 3	HL 3	HL 3

As one of the leading suppliers of standard and customised cables and cable systems, HUBER+SUHNER supplies optimised solutions for the cabling of rail-bound vehicles such as regional trains, high-speed trains, underground trains, trams as well as locomotives.

Thanks to many years of experience in the railway sector, customers can be sure of receiving perfectly functioning and innovative products from HUBER+SUHNER.

RADOX® railway cables meet the high requirements of the railway market owing following essential properties:

- increased fire protection
- increased mechanical resistance
- increased media resistance
- increased temperature range
- reliable signal and power transmission
- weight reduction
- space reduction
- lower life cycle costs

The worldwide sales organisation guarantees presence and support on site.

RADOX® Cable Description Key (Examples)

HUBER+SUHNER labels the railway cables according to cable standards EN 50264 and EN 50306.

Examples lettering

HUBER+SUHNER	RADOX®	EN 50306-4	1800 V	3 × 2.5	MM	12564186	7654321
1	2	3	6	7	8 9	12	13

HUBER+SUHNER	RADOX®	EN 50306-4	3 P	300 V	4 × 0.75	MM	S	90	12564186	7654321	Prod. date
1	2	3	4 5	6	7	8 9	10	11	12	13	14

Description

1.	Manufacturer's name	HUBER+SUHNER
2.	Registered Trademark of HUBER+SUHNER	RADOX®
3.	Name of Cable Series	4 GKW-AX or EN 50306 or 3 GKW ...
4.	Structure according to table in EN 50306 standard	1. Unscreened; 3. Screened; 5. Pairs Screened
5.	Cable installation type	P: protected installed; E: unprotected installed
6.	Nominal voltage	V AC
7.	Number of cores and conductor cross-section (mm^2)	
8.	Type identification Insulation	M
9.	Type identification Sheath	M
10.	Overall screen	S
11.	Nominal temperature	°C only valid for EN 50306 cores/cables
12.	Article number	
13.	Production number	
14.	Production date	ww-yyyy (optional)

RADOX® Railway Cable Product Range

Excellent resistance to thermal, chemical, electrical and mechanical loads

RADOX® Series	Nominal voltage	Nominal cross-section mm²	Number of cores	Temperature range °C
EN 50306-2	0,3/0,5 kV	0,5 - 2,5	1	-40 to +120
EN 50306-3			1 - 4	
EN 50306-4 1P			2 - 48	-40 to +120
EN 50306-4 IE			2 - 48	
EN 50306-4 3P			2 - 8	-50 to +120
EN 50306-4 3E			2 - 8	
EN 50306-4 5P		0,5 - 1,5	2 - 7 pair	-40 to +120
EN 50306-4 5E			2 - 7 pair	
3 GKW 300V FR RW		1 - 2,5	1	-50 to +120
3 GKW 300V MM FR RW		0,5 - 2,5	2 - 25	
3 GKW 300V MM S FR RW			2 - 20	
TENUIS-TW 600V M	0,6/1 kV	0,5 - 4,0	1	
TENUIS-TW 600V MM			2 - 95	
TENUIS-TW 600V MM S			2 - 95	
GKW-LW 600V M		0,5 - 2,5	1	
GKW-LW 600V MM			2 - 50	
GKW-LW 600V MM S			2 - 50	
3 GKW 600V		0,5 - 400	1	
3 GKW 600V XM		0,5 - 35	2 - 50	
3 GKW 600V XM S		0,5 - 50	2 - 50	
EN 50264-3-1 600V M		1 - 400	1	
EN 50264-3-2 600V MM		1,5 - 50	2 - 4	
EN 50264-3-2 600V MM S		1,5 - 50	2 - 4	
3 GKW 600V FR		1 - 50	1	
3 GKW 600V XM FR		1,5 - 50	3 - 7	
4 GKW-AX 1800V M	1,8/3 kV	0,5 - 400	1	
4 GKW-AX 1800V MM S		1,5 - 400	1	
4 GKW-AX 1800V MM S		1,5 - 95	2 - 20	
4 GKW-AX 1800V M J		16 - 300	1	
4 GKW-AX 1800V M FR		1,5 - 240	1	
EN 50264-3-1 1800V M		1,5 - 400	1	
EN 50264-3-1 1800V MM		1,5 - 400	1	
9 GKW-AX 3600V M	3,6/6 kV	1,5 - 300	1	
9 GKW-AX 3600V MM S		1,5 - 300	1	
9 GKW-AX 3600V MM S		1,5 - 95	2	
EN 50264-3-1 3600V MM		2,5 - 400	1	
Jumper	1,8/3 kV / 3,6/6 kV	1,5 - 400	1	
DATABUS	0,3 kV	0,5 - 2,5	2 - 4	-40 to +90

Single/multi-core cable		Multi-pair	Installation		Insulation	
unscreened	screened	cable	protected	unprotected	thin-walled	reduced wall thickness
x					x	
	x		x		x	
x			x		x	
x				x	x	
	x		x		x	
	x			x	x	
		x	x		x	
		x		x	x	
x					x	
x					x	
	x				x	
x					x	
x		x			x	
	x	x			x	
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	x	x			x	
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RADOX® is a trademark of Huber + Suhner AG.

HUBER+SUHNER

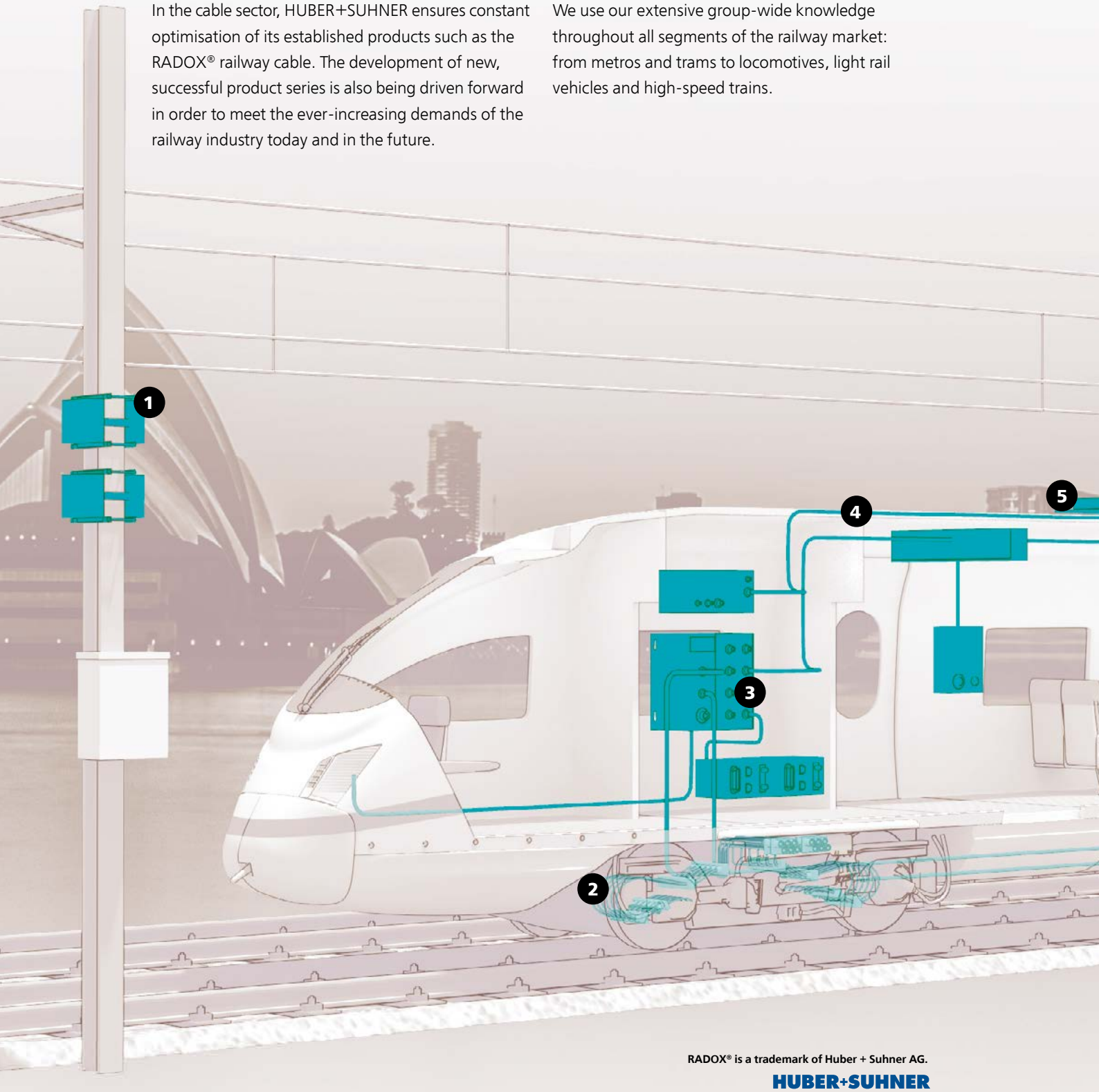
RADOX® Railway Cables Overview

Today's rail vehicles are highly complex and require innovative technologies on board to transmit data and power efficiently. Our overall connectivity solutions ensure efficiency, reliability and security.

Comprehensive Wire & Cable Portfolio

In the cable sector, HUBER+SUHNER ensures constant optimisation of its established products such as the RADOX® railway cable. The development of new, successful product series is also being driven forward in order to meet the ever-increasing demands of the railway industry today and in the future.

We use our extensive group-wide knowledge throughout all segments of the railway market: from metros and trams to locomotives, light rail vehicles and high-speed trains.



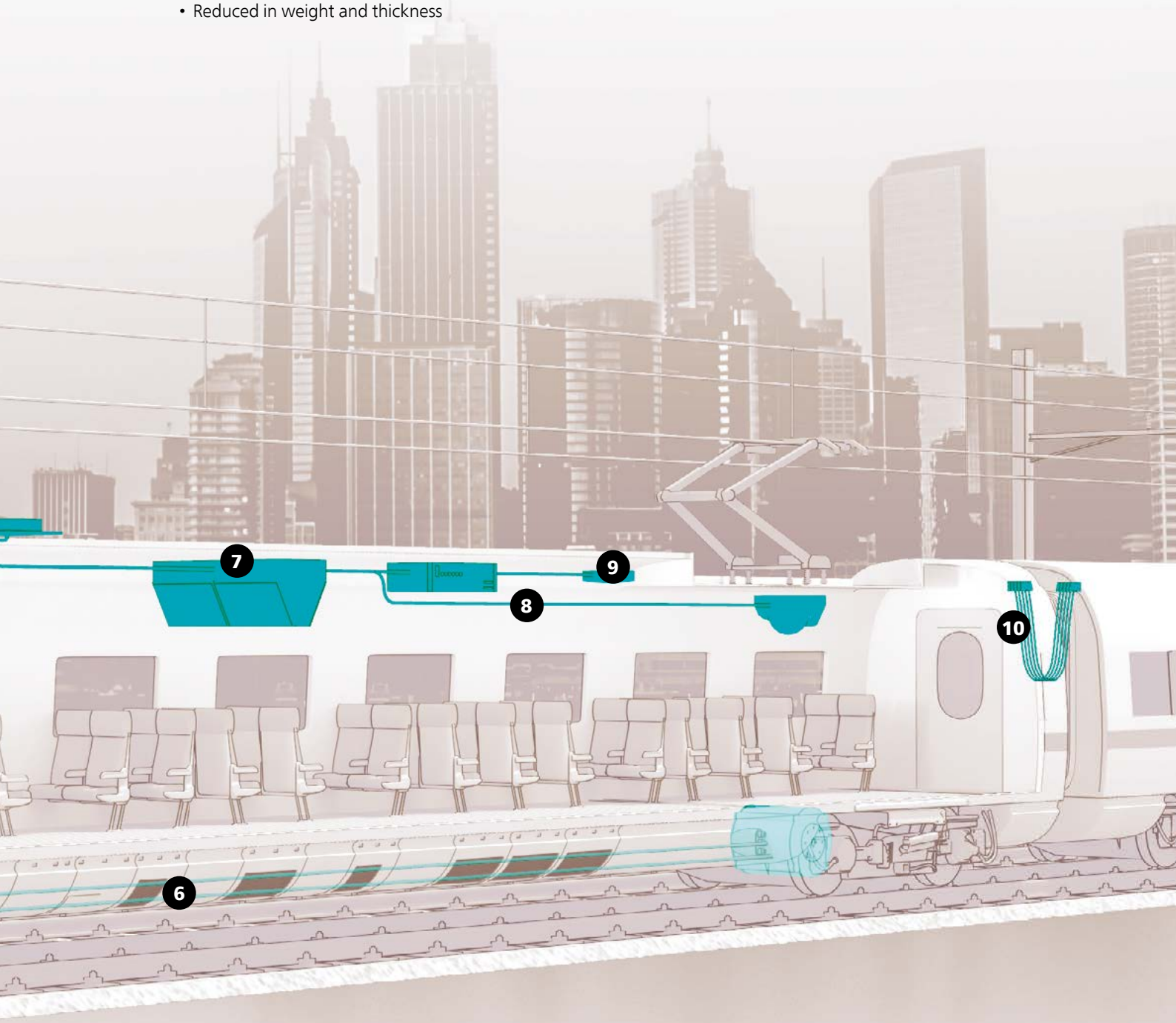
HUBER+SUHNER

Power and Signal Cable

- Ethernet and databus
- High-frequency cable
- Cables for integrated circuits
- NFPA 130 and EN45545 certified
- 300 V – 600 V & 2000 V – 3600 V
- Reduced in weight and thickness

In-Vehicle Connections

- Transmission of power, signals and data up to 10 Gbit/s between two vehicles
- Customised solutions for your specific application and requirements
- Complete assemblies and subassemblies



1. Trackside antennas
2. Bogie-Jumpers
3. Databus cables
4. RF Feeder cables
5. Rooftop antennas
6. Power cables
7. Control cables
8. GBit FO-cables
9. In-carriage antennas
10. Inter-Vehicle jumpers

Cables and Wires for Rail Vehicles

- nominal voltage of 300/500V AC
- improved behaviour in case of fire
- thin insulation

The new RADOX® EN 50306 railway cables are based on the newly developed halogen-free, electron beam cross-linked insulation system RADOX® EI 306, the sheath material RADOX® EM 104 and comply with the standard specifications of EN 50306.

(Hazard level: HL3; property level: M).

RADOX® EN50306 Series (300/500V)

RADOX® EN 50306-2 300V M

halogen-free, electron beam cross-linked single core

Technical data

- compliant with the requirements acc. to EN 50306-2
- **Temperature range**
  flexible -50°C to +125°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V AC / 4800 V DC
- **Minimum bending radius**
  flexible 4x Outer-Ø
  fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: see table

Properties

- halogen-free and flame-retardant
- resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130
- GOST 31565

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cores are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34624	12586000	1 x 0,5 WH	1,4	6	4,8
35316	12586001	1 x 0,75 WH	1,6	8	7,2
11006493	12586002	1 G 0,75 GN-YE	1,6	8	7,2
34625	12586003	1 x 1 WH	1,8	10	9,6
11006496	84112450	1 G 1 GN-YE	1,8	10	9,6

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34626	12586004	1 x 1,5 WH	2,2	16	14,4
11006495	12586007	1 G 1,5 GN-YE	2,2	16	14,4
34627	12586005	1 x 2,5 WH	2,8	26	24,0
11006494	12586006	1 G 2,5 GN-YE	2,8	26	24,0

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-3 300V MM S

halogen-free, electron beam cross-linked single core, screened

Technical data

- compliant with the requirements acc. to EN 50306-3
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V AC / 4800 V DC
- **Minimum bending radius**
  flexible 4x Outer-Ø
  fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: white
- EMC-Screen: braided screen of tinned copper wires
- Outer sheath: RADOX® S2
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- GOST 31565

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cores are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006660	84097978	1 x 0,5	2,6	14	9,6
11006668	84111017	1 x 0,75	2,7	17	12,5
11006661	84097980	1 x 1	2,8	19	14,6

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006669	84111019	1 x 1,5	3,3	27	21,0
11006670	84111020	1 x 2,5	3,9	39	31,9

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-3 300V MM S

halogen-free, electron beam cross-linked control cable, screened

Technical data

- compliant with the requirements acc. to EN 50306-3
- **Temperature range**
  flexible -50°C to +125°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V AC / 4800 V DC
- **Minimum bending radius**
  flexible 4x Outer-Ø
  fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- EMC-Screen: braided screen of tinned copper wires
- Wrapping (optional): plastic belt
- Outer sheath: RADOX® S2
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- GOST 31565

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006664	84103799	2 x 0,5	4,0	24	17,0
11006671	84111022	2 x 0,75	4,4	32	23,0
11006674	84111027	3 x 0,75	4,7	43	30,9
11006676	84111032	4 x 0,75	5,2	53	40,0
11006672	84111023	2 x 1	4,7	37	28,6

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006675	84111028	3 x 1	5,0	49	38,8
11006677	84111035	4 x 1	5,7	68	46,2
11006673	84111025	2 x 2,5	6,8	77	65,9
11006659	85164052	4 x 2,5	8,1	144	119,3

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-4 1E 300V MM

halogen-free, electron beam cross-linked control cable

Technical data

- compliant with the requirements acc. to EN 50306-4
- **Temperature range**
  flexible -40°C to +120°C
  fixed -40°C to +120°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F0, int. A1, A2, B/ext. A1, A2, B

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation. Type of installation: mechanically unprotected.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006534	85006859	3 x 0,75	6,0	59	21,6
11006527	84105080	2 x 1	6,0	57	19,2
11006516	12586086	4 x 1	6,9	84	38,4
11006517	12586087	7 x 1	7,9	124	67,2
11006518	12586090	37 x 1	15,1	507	355,2
11006519	12586091	4 x 1,5	7,9	115	57,6
34994	12586092	7 x 1,5	9,0	167	100,8

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006520	12586093	13 x 1,5	12,3	300	187,2
11006521	12586094	19 x 1,5	13,5	398	273,6
11006522	12586095	37 x 1,5	18,2	738	532,8
11006523	12586099	7 G 1,5	9,0	167	100,8
11006535	85007965	7 x 2,5	10,9	258	188,0
34993	85007966	13 x 2,5	15,1	468	312,0

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-4 1P 300V MM

halogen-free, electron beam cross-linked control cable

Technical data

- compliant with the requirements acc. to EN 50306-4
- **Temperature range**
  flexible -40°C to +120°C
  fixed -40°C to +120°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: white cores with consecutive labeling in black digits
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F0, int. A1, A2, B/ext. A1, A2, B

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation. Type of installation: mechanically protected.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006538	85077411	2 x 0,5	4,2	28	9,6
35313	12586008	4 x 0,5	4,9	42	19,2
11006497	12586009	7 x 0,5	5,6	61	33,6
11006537	85064802	7 G 0,5	5,6	61	33,6
11006498	12586010	13 x 0,5	8,0	115	62,4
11006499	12586011	19 x 0,5	8,8	155	91,2
11006528	84115498	2 x 0,75	4,7	37	14,4
11006529	84117216	3 x 0,75	4,9	44	21,6
11006536	85013457	3 G 0,75	4,9	44	21,6
11006500	12586013	4 x 0,75	5,4	55	28,8
11006501	12586014	4 G 0,75	5,4	55	28,8
11006502	12586015	7 x 0,75	6,2	83	50,4
11006503	12586016	7 G 0,75	6,2	83	50,4
11006504	12586017	13 x 0,75	8,9	159	93,6
11006524	84088673	2 x 1	4,9	42	19,2
11006533	85006857	3 x 1	5,3	53	28,8
34628	12586021	4 x 1	5,7	65	38,4
11006505	12586022	7 x 1	6,7	101	67,2
35309	84136197	10 x 1	8,8	152	96,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006506	12586023	13 x 1	9,6	191	124,8
11006507	12586024	19 x 1	10,7	260	182,4
11006526	84094661	2 x 1,5	5,8	60	28,8
11006530	84135145	3 x 1,5	6,3	77	43,2
35310	12586140	3 G 1,5	6,3	77	43,2
11006508	12586026	4 x 1,5	6,7	92	57,6
11006525	84091342	4 G 1,5	6,7	92	57,6
11006509	12586027	7 x 1,5	8,3	152	100,8
11006510	12586028	13 x 1,5	11,5	276	187,2
11006511	12586029	19 x 1,5	12,7	372	273,6
11006512	12586030	37 x 1,5	17,4	702	532,8
11006513	12586031	2 x 2,5	7,3	94	48,0
11006514	12586032	3 x 2,5	7,8	121	72,0
35311	12586033	3 G 2,5	7,8	121	72,0
11006515	12586034	4 x 2,5	8,6	153	96,0
35312	12586035	4 G 2,5	8,6	153	96,0
11006532	84141575	7 x 2,5	10,0	235	168,0
11006531	84141494	19 x 2,5	15,8	595	456,0

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-4 3E 300V MM S

halogen-free, electron beam cross-linked control cable, screened

Technical data

- compliant with the requirements acc. to EN 50306-4
- **Temperature range**
  flexible -50°C to +125°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- GOST 31565

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation. Type of installation: mechanically unprotected.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006630	12586101	2 x 0,5	5,9	55	17,0
11006631	12586102	3 x 0,5	6,1	61	23,6
11006632	12586103	4 x 0,5	6,6	73	29,6
11006633	12586104	6 x 0,5	7,5	99	44,9
11006634	12586106	2 x 0,75	6,3	65	23,0
11006635	12586107	3 x 0,75	6,6	75	31,5
11006636	12586108	4 x 0,75	7,1	92	40,0
11006637	12586109	6 x 0,75	8,2	125	61,1
11006638	12586111	2 x 1	6,6	73	28,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006639	12586112	3 x 1	6,9	85	38,8
11006640	12586114	6 x 1	8,5	134	78,0
11006641	12586115	8 x 1	9,0	162	92,0
11006642	12586116	2 x 1,5	7,5	94	39,9
11006643	12586117	3 x 1,5	7,8	110	54,0
11006644	12586118	4 x 1,5	8,6	134	74,9
11006645	12586119	6 x 1,5	9,7	180	109,4
11006646	12586120	8 x 1,5	11,1	252	152,8

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-4 3P 300V MM S

halogen-free, electron beam cross-linked control cable, screened

Technical data

- compliant with the requirements acc. to EN 50306-4
- **Temperature range**
  flexible -50°C to +125°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexible 4x Outer-Ø
  fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation. Type of installation: mechanically protected.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34846	12586036	2 x 0,5	4,9	40	17,0
34632	12586037	3 x 0,5	5,0	46	23,6
34751	12586038	4 x 0,5	5,4	54	29,6
11006615	12586039	6 x 0,5	6,3	75	41,1
34633	12586040	8 x 0,5	6,7	87	51,9
11006690	85087574	9 x 0,5	7,3	120	64,2
11006662	84101234	10 x 0,5	7,9	114	68,5
11006663	84101235	12 x 0,5	8,2	130	78,9
11006629	12586100	15 x 0,5	9,0	161	95,6
11006667	84110710	16 x 0,5	9,0	161	100,4
34634	12586041	2 x 0,75	5,1	48	23,0
35314	12586042	3 x 0,75	5,4	58	32,0
11006680	84122834	3 G 0,75	5,4	58	32,0
34635	12586043	4 x 0,75	5,9	69	40,0
11006616	12586044	6 x 0,75	6,8	95	57,1
11006617	12586045	8 x 0,75	7,4	121	77,1
11006682	84134205	12 x 0,75	9,2	174	109,8
34629	12586046	2 x 1	5,4	55	28,0
34636	12586047	3 x 1	5,8	67	38,8
34637	12586048	4 x 1	6,3	82	50,9
11006678	84116923	5 x 1	6,9	99	65,8
34640	12586049	6 x 1	7,3	112	75,9

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34642	12586050	8 x 1	8,3	149	97,7
11006657	84094674	10 x 1	9,5	189	128,1
11006687	85025439	21 x 1	13,5	310	278,0
34630	12586051	2 x 1,5	6,4	76	40,0
11006618	12586052	3 x 1,5	6,7	92	54,0
34638	12586053	4 x 1,5	7,3	113	74,9
11006683	84135186	4 G 1,5	7,3	113	74,9
34641	12586054	6 x 1,5	8,9	168	109,4
11006619	12586055	8 x 1,5	9,8	210	147,4
34631	12586056	2 x 2,5	7,9	117	66,1
11006620	12586057	3 x 2,5	8,2	144	92,5
34639	12586058	4 x 2,5	9,3	181	119,3
34772	84115627	5 x 2,5	10,2	226	152,8
11006658	84094675	6 x 2,5	10,9	255	176,1
11006665	84106024	2 x 2 x 0,5	7,6	87	36,6
34750	84106035	3 x 2 x 0,5	8,2	107	49,4
11006679	84118200	4 x 2 x 0,5	9,0	126	55,4
11006688	85026844	6 x 2 x 0,5	10,7	183	86,3
11006684	85003521	2 x 2 x 0,75	8,3	112	49,5
11006686	85010158	3 x 2 x 0,75	9,0	135	65,5
11006689	85075376	6 x 2 x 0,75	12,3	253	126,7

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-4 5E 300V MM S

halogen-free, electron beam cross-linked control cable, multi-pair, screened

Technical data

- compliant with the requirements acc. to EN 50306-4
- **Temperature range**
  flexible -40°C to +120°C
  fixed -40°C to +120°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V AC / 4800 V DC
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: (pair) white cores with labeling in black digits (1/2)
- EMC-Screen: braided screen of tinned copper wires
- Protective cover: RADOX® S2
- Wrapping: plastic belt
- Outer sheath: RADOX® S2
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F0, int. A1, A2, B/ext. A1, A2, B

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request
- **RADOX® EN 50306-4 7E 300V MM S**, on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation. Type of installation: mechanically unprotected.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006647	12586124	2 x 2 x 0,5	10,5	138	34,9
11006648	12586125	3 x 2 x 0,5	11,2	170	52,5
11006649	12586126	4 x 2 x 0,5	12,3	197	69,8
11006650	12586128	2 x 2 x 0,75	11,3	184	47,4
11006651	12586130	4 x 2 x 0,75	13,6	266	94,8

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006652	12586133	3 x 2 x 1	12,7	216	87,2
11006653	12586135	7 x 2 x 1	16,2	395	200,0
11006654	12586136	2 x 2 x 1,5	13,7	255	79,8
11006655	12586137	3 x 2 x 1,5	14,4	288	119,3

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50306-4 5P 300V MM S

halogen-free, electron beam cross-linked control cable, multi-pair, screened

Technical data

- compliant with the requirements acc. to EN 50306-4
- **Temperature range**
  flexible -40°C to +120°C
  fixed -40°C to +120°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V AC / 4800 V DC
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306-2
- Core insulation: RADOX® EI 306
- Core identification: (pair) white cores with labeling in black digits (1/2)
- EMC-Screen: braided screen of tinned copper wires
- Protective cover: RADOX® S2
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F0, int. A1, A2, B/ext. A1, A2, B

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request
- **RADOX® EN 50306-4 7P 300V MM S**, on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation. Type of installation: mechanically protected.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006621	12586059	2 x 2 x 0,5	9,7	117	34,9
11006622	12586060	3 x 2 x 0,5	10,3	124	52,4
11006623	12586061	4 x 2 x 0,5	11,4	175	69,8
11006656	84088693	5 x 2 x 0,5	12,8	227	85,0
11006624	12586062	7 x 2 x 0,5	13,7	258	122,2

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006625	12586063	2 x 2 x 0,75	10,5	132	47,4
11006626	12586067	2 x 2 x 1	11,1	148	57,9
11006685	85009591	5 x 2 x 1	15,2	238	299,0
11006627	12586071	2 x 2 x 1,5	12,7	205	79,5
11006628	12586073	4 x 2 x 1,5	15,0	312	159,0

Dimensions and specifications may be changed without prior notice.


W
411X
W
411Y
02A
443
02A
433
199
4
27
499

RADOX® TENUIS-TW 600V M is smaller, lighter and more flexible than conventional products on the market and fulfils the requirements of the most important European safety standards in the railway sector. The flexibility is reflected above all in the very good processability. Special tools are not necessary. In general, the processing and assembly effort is significantly reduced.

Excellent resistance to high and low temperatures, resistant to oils, acids, alkalis, ozone and generally to weathering and difficult environmental conditions.

RADOX® TENIUS-TW Series (600/1000V)

RADOX® TENUIS-TW 600V M

halogen-free, light single core cable

Technical data

- compliant with the requirements acc. to EN 50306-2
- **Temperature range**
  flexible -50°C to +125°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V AC / 8400 V DC
- **Minimum bending radius**
  flexible 4x Outer-Ø
  fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 50306-2
- Core insulation: RADOX® EI 303
- Core identification: see table

Properties

- halogen-free and flame-retardant
- resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130
- GOST 31565

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cores are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- The core cable is used as a sub-component in cables according to EN 50264-3-2.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005941	85082261	1 x 0.14 WH	1,0	2	1,3
11005927	85021029	1 x 0,25 WH	1,2	3	2,4
11005933	85027590	1 x 0,34 WH	1,3	4	3,3
11005911	12564379	1 x 0,5 WH	1,4	6	4,8
11005942	85087154	1 G 0,5 GN-YE	1,4	6	4,8
11005928	85026405	1 x 0,5 BK	1,4	6	4,8
11005934	85067272	1 x 0,5 BN	1,4	6	4,8
11005935	85067273	1 x 0,5 BU	1,4	6	4,8
11005936	85067274	1 x 0,5 RD	1,4	6	4,8
11005937	85067275	1 x 0,5 GY	1,4	6	4,8
11005912	12566838	1 x 0,75 WH	1,6	8	7,2
11005929	85026406	1 x 0,75 BK	1,6	8	7,2
35154	12561500	1 x 1 WH	1,8	10	9,6
11005913	12581111	1 G 1 GN-YE	1,8	10	9,6
11005915	12581116	1 x 1 BK	1,8	10	9,6
11005920	12581141	1 x 1 BN	1,8	10	9,6
11005918	12581131	1 x 1 BU	1,8	10	9,6
11005919	12581136	1 x 1 RD	1,8	10	9,6

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005916	12581121	1 x 1 GY	1,8	10	9,6
11005917	12581126	1 x 1 YE	1,8	10	9,6
11005921	12581146	1 x 1 GN	1,8	10	9,6
11005922	12581359	1 x 1 OG	1,8	10	9,6
11005923	12581360	1 x 1 VT	1,8	10	9,6
11005924	12581361	1 x 1 PK	1,8	10	9,6
34560	12564381	1 x 1,5 WH	2,2	16	14,4
35244	12581112	1 G 1,5 GN-YE	2,2	16	14,4
11005930	85026407	1 x 1,5 BK	2,2	16	14,4
34561	12564382	1 x 2,5 WH	2,8	26	24,0
11005914	12581113	1 G 2,5 GN-YE	2,8	26	24,0
11005931	85026408	1 x 2,5 BK	2,8	26	24,0
11005938	85068296	1 x 2,5 BN	2,8	26	24,0
11005940	85068298	1 x 2,5 BU	2,8	26	24,0
11005939	85068297	1 x 2,5 GN	2,8	26	24,0
11005925	12581455	1 x 4 WH	3,4	40	38,4
11005926	12581487	1 G 4 GN-YE	3,4	40	38,4
11005932	85026409	1 x 4 BK	3,4	40	38,4

Dimensions and specifications may be changed without prior notice.

RADOX® TENUIS-TW 600V MM

halogen-free, light control and power cable

Technical data

- compliant with the requirements acc. to EN 50306
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 50306-2
- Core insulation: RADOX® EI 303
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104 acc. to EN 50264-1
- Outer sheath colour: black

Note

- G = with protective conductor GN-YE
- V = coloured cores
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130
- GOST 31565

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005968	12584136	2 V 0,5	4,4	30	9,6
35205	12568036	2 x 0,5	4,4	30	9,6
11005969	12584137	3 V 0,5	4,6	35	14,4
11005945	12568037	3 x 0,5	4,6	35	14,4
11005970	12584138	4 V 0,5	5,0	42	19,2
34771	12568038	4 x 0,5	5,0	43	19,2
11005982	12585752	5 V 0,5	5,5	53	24,0
11005943	12566304	5 x 0,5	5,5	53	24,0
11005991	84118473	6 V 0,5	6,0	64	28,8
34588	12568039	6 x 0,5	6,0	63	28,8
11005959	12583000	9 x 0,5	7,3	90	43,2
11005998	85073536	10 x 0,5	7,3	96	48,0
11005983	12585961	12 x 0,5	7,6	107	57,6
11005962	12583667	15 x 0,5	8,6	135	72,0
11005987	84096896	16 x 0,5	8,6	139	76,8
11005960	12583001	25 x 0,5	10,5	209	120,0
11005946	12568040	2 x 2 x 0,5	6,8	63	19,2
11005947	12568041	4 x 2 x 0,5	8,5	103	38,4
11005988	84097766	6 x 2 x 0,5	10,2	149	57,6
11005972	12584344	6 x 3 x 0,5	14,6	350	137,4
35255	12568047	2 x 0,75	4,7	38	14,4
11005965	12583990	3 G 0,75	5,1	48	21,6
35159	12568048	3 x 0,75	5,1	48	21,6
11005966	12583992	4 G 0,75	5,6	59	28,8
34936	12568049	4 x 0,75	5,6	58	28,8
11005948	12568050	6 x 0,75	6,7	872	43,2
11005971	12584272	8 x 0,75	7,8	115	57,6
11005979	12585274	10 x 0,75	8,1	128	72,0
11005990	84111116	12 x 0,75	8,4	137	86,4
11005989	84097783	4 x 2 x 0,75	9,5	139	57,6
11005986	84090409	2 V 1	5,1	45	19,2
34562	12568052	2 x 1	5,1	45	19,2
35253	12568053	3 x 1	5,4	56	28,8
34565	12568054	4 x 1	5,8	66	38,4
11005997	85072779	5 x 1	6,7	86	48,0
11005949	12568055	6 x 1	7,3	104	57,6
11005981	12585459	7 x 1	8,0	124	67,2
11005992	84121018	8 x 1	8,3	138	76,8
34567	12581348	10 x 1	8,7	155	96,0
35207	12584271	12 x 1	9,1	177	115,2

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005976	12584654	16 x 1	10,4	235	153,6
11005984	12585980	19 x 1	11,6	284	182,4
35208	12581349	25 x 1	12,8	35	240,0
11005961	12583421	2 x 2 x 1	8,0	96	38,4
34563	12568098	2 x 1,5	6,0	63	28,8
35250	12582026	3 G 1,5	6,3	77	43,2
35209	12568099	3 x 1,5	6,3	77	43,2
34566	12583172	4 G 1,5	6,9	95	57,6
35210	12568100	4 x 1,5	6,9	96	57,6
11005953	12582027	5 G 1,5	7,8	122	72,0
11005952	12581350	5 x 1,5	7,8	122	72,0
11005954	12582028	6 x 1,5	8,5	144	86,4
11005955	12582029	7 G 1,5	9,1	168	100,8
11005963	12583724	7 x 1,5	9,1	168	100,8
11005956	12582030	8 x 1,5	10,3	205	115,2
11005975	12584489	9 G 1,5	10,6	211	129,6
11005957	12582031	10 x 1,5	10,6	221	144,0
35211	12583725	12 x 1,5	11,1	25	172,8
11005964	12583726	16 x 1,5	12,6	339	230,4
11005995	85063742	18 x 1,5	13,4	382	259,2
11005958	12582033	25 G 1,5	15,5	509	360,0
35212	84103977	25 x 1,5	15,5	51	360,0
11005985	12586298	30 x 1,5	16,7	606	432,0
11005994	85063739	50 x 1,5	21,5	99	720,0
35213	12568101	2 x 2,5	7,3	98	48,0
35256	12582035	3 G 2,5	7,8	122	72,0
35252	12582034	3 x 2,5	7,8	123	72,0
34564	12583173	4 G 2,5	8,7	156	96,0
11005944	12566306	4 x 2,5	8,7	155	96,0
11005977	12585007	5 G 2,5	9,4	187	120,0
11005950	12581346	5 x 2,5	9,4	187	120,0
11005951	12581347	6 x 2,5	10,6	232	144,0
11005967	12583995	7 G 2,5	11,5	273	168,0
11005993	85002904	16 x 2,5	15,8	54	384,0
11005996	85063743	18 x 2,5	16,8	616	432,0
11005978	12585070	20 x 2,5	17,6	681	480,0
11005973	12584363	30 x 2,5	20,9	975	720,0
11005974	12584406	36 x 2,5	22,5	1158	864,0
11005980	12585458	4 x 4	10,2	236	153,6
11005999	85084353	10 x 4	16,0	552	384,0

Dimensions and specifications may be changed without prior notice.

RADOX® TENUIS-TW 600V MM S

halogen-free, light control and power cable, screened

Technical data

- compliant with the requirements acc. to EN 50306
- **Temperature range**
  flexible -50°C to +125°C
  fixed -50°C to +125°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 50306- 2
- Core insulation: RADOX® EI 303
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104 acc. to EN 50264-1
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130
- GOST 31565

Note

- G = with protective conductor GN-YE
- V = coloured cores
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006064	85070661	10 x 2 x 0,25	11,1	174	85,5
11006062	85070508	2 x 0,34	4,7	37	7,2
11006057	85024293	3 x 0,34	4,9	41	17,3
11006063	85070510	4 x 0,34	5,2	49	21,3
11006065	85073629	24 x 0,34	10,5	205	107,1
34569	12568117	2 x 0,5	4,8	39	17,0
34579	12568118	3 x 0,5	5,3	51	24,1
11006033	12584097	4 V 0,5	5,4	55	30,0
34581	12568119	4 x 0,5	5,4	54	29,0
11006043	84092080	5 V 0,5	6,2	73	38,2
11006003	12581351	5 x 0,5	6,2	72	44,0
11006000	12568120	6 x 0,5	6,5	82	46,6
35149	12583138	7 x 0,5	7,2	97	51,4
35140	12581352	8 x 0,5	7,5	109	57,9
11006006	12581450	9 x 0,5	7,9	114	63,7
11006045	84112800	10 x 0,5	7,9	119	68,5
35150	12581353	12 x 0,5	8,1	130	91,0
35147	12582036	15 x 0,5	9,0	160	96,0
11006024	12583727	16 x 0,5	9,1	164	100,7
11006048	84123311	20 x 0,5	10,6	222	133,8
11006050	84141106	24 x 0,5	11,3	249	153,0
11006009	12582037	25 x 0,5	11,3	254	153,0
11006010	12582038	36 x 0,5	13,3	367	235,8
11006011	12582040	2 x (2 x 0,5)	11,8	225	89,8
35142	12568121	2 x 2 x 0,5	7,2	81	36,5
35146	12581451	3 x 2 x 0,5	8,1	104	48,8
11006001	12568122	4 x 2 x 0,5	9,3	127	55,4
34586	12582041	5 x 2 x 0,5	10,3	170	79,0
35148	12582042	6 x 2 x 0,5	11,1	194	86,3
11006025	12583728	8 x 2 x 0,5	13,5	293	140,4
11006044	84104571	10 x 2 x 0,5	13,7	290	159,5
35141	12581358	12 x 2 x 0,5	13,0	283	178,5

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006035	12584133	2 V 0,75	5,3	51	26,0
34570	12568514	2 x 0,75	5,0	46	23,0
11006030	12583993	3 G 0,75	5,4	57	31,3
34580	12568515	3 x 0,75	5,4	57	36,0
11006031	12583994	4 G 0,75	6,0	73	48,4
34582	12568516	4 x 0,75	6,0	71	40,0
11006061	85063744	5 x 0,75	6,7	91	52,1
11006002	12568517	6 x 0,75	7,2	106	59,0
11006008	12581578	7 x 0,75	8,0	127	70,5
11006012	12582045	8 x 0,75	8,4	141	79,9
11006013	12582046	10 x 0,75	8,7	155	96,0
34568	12581354	12 x 0,75	9,0	172	110,0
35251	12584333	14 x 0,75	9,8	206	133,0
11006014	12582047	16 x 0,75	10,5	236	148,0
11006053	85001068	18 G 0,75	11,0	260	166,7
11006015	12582049	24 x 0,75	12,8	355	235,9
11006060	85063741	25 x 0,75	12,8	355	236,9
11006046	84122437	30 x 0,75	13,7	414	279,5
11006047	84122439	37 x 0,75	15,7	517	337,8
34574	12582050	2 x 2 x 0,75	8,2	107	49,7
35270	12581579	3 x 2 x 0,75	9,0	129	65,4
11006037	12584787	4 x 2 x 0,75	10,5	182	91,0
11006052	84147685	4 x 3 x 0,75	11,3	220	120,1
11006039	12585078	8 x 2 x 0,75	15,2	361	165,5
11006066	85076847	10 x 2 x 0,75	15,5	372	216,2
11006067	85084909	12 x 2 x 0,75	15,7	406	243,6
34571	12568162	2 x 1	5,6	57	28,0
35229	12568163	3 x 1	6,0	70	38,8
34583	12568164	4 x 1	6,5	85	50,9
11006026	12583729	5 x 1	7,0	105	65,8
35204	12568165	6 x 1	7,8	128	71,0
11006032	12583999	7 x 1	8,5	149	90,2

Continuation ▸

RADOX® TENUIS-TW 600V MM S

halogen-free, light control and power cable, screened

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006005	12581449	8 x 1	8,9	165	103,5
11006004	12581355	12 x 1	9,9	216	156,0
11006038	12584811	16 x 1	11,2	279	191,1
11006051	84143022	20 x 1	12,7	362	248,0
11006058	85027258	25 x 1	14,1	429	303,6
11006049	84129985	37 x 1	16,7	623	438,1
34575	12581357	2 x 2 x 1	8,8	126	61,6
11006022	12583002	3 x 4 x 1	12,4	287	170,0
11006034	12584118	4 x 4 x 1 UIC	14,2	362	217,4
34587	12584697	5 x 2 x 1	12,7	278	163,1
11006036	12584412	6 x 2 x 1	14,0	334	190,5
11006040	12585378	8 x 2 x 1	16,7	467	236,4
34572	12568172	2 x 1,5	6,5	78	39,9
34578	12583730	3 G 1,5	6,8	96	59,2
35143	12568173	3 x 1,5	6,8	96	59,2
11006027	12583731	4 G 1,5	7,4	116	75,5
35161	12568174	4 x 1,5	7,4	116	69,0
11006016	12582053	5 x 1,5	8,3	145	86,0
11006007	12581465	6 x 1,5	9,0	171	120,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006056	85021166	7 G 1,5	10,0	211	133,3
11006059	85031963	7 x 1,5	10,0	209	133,3
11006041	12586408	8 x 1,5	11,0	247	152,3
11006023	12583544	10 x 1,5	11,4	271	210,6
11006017	12582054	12 x 1,5	12,1	322	227,5
11006018	12582055	16 x 1,5	13,6	411	290,6
11006019	12582056	18 x 1,5	14,4	464	331,4
11006055	85020967	64 x 1,5	25,5	1463	1091,3
34576	84105087	2 x 2 x 1,5	10,6	177	86,3
11006054	85004430	12 x 2 x 1,5	20,6	705	452,4
34573	12568175	2 x 2,5	7,8	120	67,0
11006028	12583736	3 G 2,5	8,2	144	88,5
11006021	12582658	3 x 2,5	8,2	142	88,5
34584	12582058	4 x 2,5	9,1	177	119,3
34585	12584926	5 x 2,5	10,3	230	153,3
11006020	12582059	6 x 2,5	11,4	277	178,0
11006042	84091733	10 x 2,5	14,2	434	304,0
34577	12583449	2 x 2 x 2,5	13,2	297	157,3
11006029	12583873	2 x 4	8,9	163	102,3

Dimensions and specifications may be changed without prior notice.

Halogen-Free, Compact and Lightweight Double Insulated Single Core Cable for Rail Vehicles

RADOX® GKW-LW 600V M is suitable as compact system wiring in modern rolling stock thanks to its design.

RADOX® GKW-LW 600V M is typically used as a signal and control cable.

RADOX® GKW-LW Series (600/1000V)

RADOX® GKW-LW 600V MM

halogen-free, compact and lightweight control cable

Technical data

- core with reduced insulation wall thickness
- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 50306-2
- Core insulation: RADOX® TI 301
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104 acc. to EN 50264-1
- Outer sheath colour: black

Notes

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- BS 6853, GM/RT 2130
- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NFPA 130
- NF F16-101
- UNI CEI 11170

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006233	12556756	2 x 0,5	4,0	26	9,6
11006234	12556757	3 x 0,5	4,2	30	14,4
11006235	12556758	4 x 0,5	4,5	36	19,2
11006236	12556759	5 x 0,5	5,0	45	24,0
11006237	12556760	6 x 0,5	5,4	52	28,8
11006238	12556761	7 x 0,5	5,8	61	33,6
11006270	12561299	9 x 0,5	6,7	75	43,2
11006239	12556762	10 x 0,5	6,7	79	48,0
11006240	12556763	12 x 0,5	6,9	89	57,6
11006271	12561300	15 x 0,5	7,8	114	72,0
11006241	12556764	16 x 0,5	7,8	118	76,8
11006242	12556766	24 x 0,5	9,5	168	115,2
11006272	12561301	25 x 0,5	9,5	171	120,0
11006265	12556811	36 x 0,5	11,2	247	172,8
11006243	12556767	2 x 0,75	4,4	33	14,4
11006244	12556768	3 x 0,75	4,6	40	21,6
35254	12562758	3 G 0,75	4,6	40	21,6
34506	12556769	4 x 0,75	5,0	50	28,8
11006245	12556770	5 x 0,75	5,7	62	36,0
35247	12556771	6 x 0,75	6,0	71	43,2
11006246	12556772	7 x 0,75	6,8	88	50,4
11006290	12581701	9 x 0,75	7,7	106	64,8
11006291	12581833	9 G 0,75	7,7	106	64,8
11006247	12556773	10 x 0,75	7,7	128	72,0
11006232	12556673	12 x 0,75	7,9	128	86,4
11006273	12561830	14 x 0,75	8,4	147	100,8
11006248	12556774	16 x 0,75	9,0	168	115,2
11006249	12556775	18 x 0,75	9,4	187	129,6
11006274	12561831	20 x 0,75	10,2	212	144,0
11006250	12556776	24 x 0,75	11,1	246	172,8
34502	12556777	2 x 1	4,7	40	19,2
34503	12556778	3 x 1	5,0	49	28,8
34507	12556779	4 x 1	5,5	60	38,4
11006251	12556780	5 x 1	6,0	74	48,0
11006280	12563051	5 G 1	6,0	74	48,0
11006252	12556781	6 x 1	6,6	89	57,6
11006230	12556475	7 x 1	7,3	106	67,2

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006253	12556783	12 x 1	8,6	158	115,2
11006254	12556784	16 x 1	9,6	205	153,6
11006231	12556476	20 x 1	11,2	266	192,0
11006266	12556817	36 x 1	14,0	441	345,6
34504	12556786	2 x 1,5	5,4	57	28,8
34505	12555404	3 x 1,5	5,8	71	43,2
35217	12559973	3 G 1,5	5,8	71	43,2
11006278	12562759	4 G 1,5	6,5	91	57,6
35215	12556787	4 x 1,5	6,5	91	57,6
11006268	12559974	5 G 1,5	7,2	112	72,0
34509	12555405	5 x 1,5	7,2	112	72,0
11006281	12563990	6 G 1,5	7,9	136	86,4
11006255	12556788	6 x 1,5	7,9	136	86,4
11006277	12562572	14 x 1,5	11,1	284	201,6
35230	12556792	16 x 1,5	11,7	317	230,4
11006257	12556793	18 x 1,5	12,5	360	259,2
35237	12556818	24 x 1,5	14,5	467	345,6
11006282	12564477	25 G 1,5	14,6	482	360,0
11006267	12556820	30 x 1,5	15,7	5569	432,0
11006289	12568635	36 G 1,5	17,1	690	518,4
11006228	12555408	36 x 1,5	17,1	690	518,4
11006284	12565315	50 x 1,5	20,1	936	720,0
35233	12556794	2 x 2,5	6,6	84	48,0
11006283	12564478	3 G 2,5	7,0	105	72,0
11006279	12562760	4 G 2,5	7,9	135	96,0
11006258	12556795	4 x 2,5	7,9	135	96,0
11006287	12567459	5 G 2,5	8,8	167	120,0
11006259	12556797	6 x 2,5	9,6	198	144,0
11006286	12566649	7 G 2,5	10,5	237	168,0
11006260	12556798	7 x 2,5	10,5	237	168,0
11006261	12556800	10 x 2,5	12,3	310	240,0
11006262	12556801	16 x 2,5	14,5	476	384,0
11006263	12556802	18 x 2,5	15,4	539	432,0
11006275	12562080	20 x 2,5	16,2	595	480,0
11006288	12568634	25 G 2,5	18,2	724	600,0
11006264	12556803	25 x 2,5	18,2	724	600,0
11006276	12562081	35 x 2,5	21,1	1010	840,0

Dimensions and specifications may be changed without prior notice.

RADOX® GKW-LW 600V MM S

halogen-free, compact and lightweight control cable, screened

Technical data

- core with reduced insulation wall thickness
- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 50306-2
- Core insulation: RADOX® TI 301
- Core identification: white cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping (optional): plastic belt
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104 acc. to EN 50264-1
- Outer sheath colour: black

Individual screen: cores / pairs / triads

- EMC-Screen: braided screen of tinned copper
- Inner sheath: RADOX® S2
- Inner sheath colour: black with consecutive labeling in yellow digits

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- BS 6853, GM/RT 2130
- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NFPA 130
- NF F16-101
- UNI CEI 11170

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006454	12566633	2 x 2 x 0,25	5,7	49	22,6
11006455	12566634	3 x 2 x 0,25	6,1	57	27,8
11006466	12581506	4 x 2 x 0,25	7,0	95	37,0
11006456	12566694	7 x 2 x 0,25	7,8	92	48,4
11006458	12567868	25 x 0,25	8,9	139	89,5
34522	12555592	2 x 0,5	4,3	32	15,9
34531	12555593	3 x 0,5	4,5	38	22,1
34537	12555594	4 x 0,5	4,8	45	27,4
34542	12555595	5 x 0,5	5,4	55	33,0
34544	12555596	6 x 0,5	5,9	68	41,8
34548	12555603	7 x 0,5	6,4	77	41,8
34550	12561467	8 x 0,5	6,9	91	91,7
34554	12558109	9 x 0,5	7,2	99	47,8
34511	12555597	10 x 0,5	7,2	100	65,3
34514	12555598	12 x 0,5	7,6	115	75,5
34517	12558110	15 x 0,5	8,5	141	70,4
34519	12555600	16 x 0,5	8,5	128	99,1
11006396	12555601	18 x 0,5	8,9	162	113,7
11006445	12562202	20 x 0,5	9,3	181	125,8
34521	12555602	25 x 0,5	10,3	219	155,7
11006427	12559008	30 x 0,5	11,2	252	185,0
11006428	12559009	36 x 0,5	12,1	310	229,9
11006429	12559010	42 x 0,5	12,9	360	269,6
11006440	12561833	48 x 0,5	13,7	39	292,6
11006430	12559011	50 x 0,5	14,3	417	280,0
34527	12555604	2 x 2 x 0,5	6,4	65	15,9

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006465	12581433	2 x 3 x 0,5	6,9	100	22,1
34535	12561834	3 x 2 x 0,5	6,9	77	27,4
34541	12555605	4 x 2 x 0,5	8,0	102	33,0
11006453	12566533	5 x 2 x 0,5	9,3	137	41,8
11006418	12557170	6 x 2 x 0,5	9,2	146	41,8
34553	12555930	8 x 2 x 0,5	9,9	167	91,7
34513	12555606	10 x 2 x 0,5	10,9	203	47,8
11006446	12562825	12 x 2 x 0,5	12,1	252	65,3
11006436	12560140	16 x 2 x 0,5	13,7	317	75,5
11006439	12561619	20 x 2 x 0,5	16,8	42	70,4
34523	12556629	2 x 0,75	4,8	42	113,7
34532	12556636	3 x 0,75	5,0	50	125,8
34538	12556630	4 x 0,75	5,5	61	155,7
11006415	12556637	5 x 0,75	6,1	75	185,0
34545	12556638	6 x 0,75	6,6	93	229,9
35235	12556639	7 x 0,75	7,2	109	269,6
34551	12556631	8 x 0,75	7,8	123	292,6
11006416	12556640	10 x 0,75	8,3	132	280,0
11006414	12556632	12 x 0,75	8,4	154	110,4
35238	12556419	16 x 0,75	9,7	20	146,2
11006417	12556641	18 x 0,75	10,2	228	166,1
11006441	12561836	24 x 0,75	12,0	288	230,6
11006413	12556480	25 x 0,75	12,3	32	243,4
34528	12558422	2 x 2 x 0,75	7,8	95	43,6
34536	12558423	3 x 2 x 0,75	8,3	112	62,7
11006463	12568688	4 x 2 x 0,75	9,4	142	81,7

Continuation ▸

RADOX® GKW-LW 600V MM S

halogen-free, compact and lightweight control cable, screened

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006443	12562002	5 x 2 x 0,75	10,7	182	107,7
11006448	12564824	6 x 2 x 0,75	11,9	228	140,6
11006462	12568613	8 x 2 x 0,75	13,2	291	176,9
11006437	12560882	5 x (2 x 0,75)	13,5	295	174,5
11006444	12562003	3 x 3 x 0,75	9,0	142	88,0
11006449	12564825	5 x 4 x 0,75	13,5	325	207,0
34524	12555875	2 x 1	5,0	50	28,2
34534	12555688	3 x 1	5,5	62	38,8
34539	12555877	4 x 1	5,8	73	49,5
34543	12555878	5 x 1	6,7	95	60,5
34546	12555879	6 x 1	7,3	111	74,4
34549	12555880	7 x 1	7,9	129	91,1
34552	12556373	8 x 1	8,5	145	99,8
34512	12555881	10 x 1	7,4	164	128,5
34515	12555882	12 x 1	9,2	184	147,2
11006403	12555883	16 x 1	10,5	243	193,6
11006404	12555884	18 x 1	11,2	269	209,6
11006405	12555885	25 x 1	12,9	369	309,1
11006431	12559012	27 x 1	13,4	470	322,1
11006432	12559013	30 x 1	14,0	426	351,0
11006433	12559014	36 x 1	15,2	509	419,3
11006434	12559015	42 x 1	16,5	598	485,9
11006435	12559016	50 x 1	17,8	701	593,6
34529	12558112	2 x 2 x 1	8,5	120	59,1
11006406	12555886	4 x 2 x 1	10,6	191	102,6
11006450	12564826	6 x 2 x 1	13,0	266	171,9
11006451	12564827	12 x 2 x 1	15,2	402	300,2
11006407	12555887	3 x 4 x 1	11,3	236	161,9
11006424	12558113	4 x 4 x 1	12,5	302	209,9

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34525	12555888	2 x 1,5	5,8	68	38,9
35240	12559047	3 G 1,5	6,2	86	53,0
34533	12555889	3 x 1,5	6,2	82	54,5
34540	12555890	4 x 1,5	6,7	106	70,6
11006467	12583997	5 G 1,5	7,8	137	92,5
11006408	12555891	5 x 1,5	7,8	136	92,5
34547	12555892	6 x 1,5	8,3	158	109,2
11006464	12568979	7 G 1,5	9,2	192	132,1
34558	12555893	7 x 1,5	9,2	192	132,1
11006457	12567260	8 x 1,5	10,3	229	147,7
11006426	12558115	9 x 1,5	10,5	241	168,9
11006409	12555894	10 x 1,5	10,5	265	184,2
34516	12555895	12 x 1,5	11,0	282	208,8
11006459	12568429	14 G 1,5	12,2	349	255,8
11006410	12555896	16 x 1,5	12,6	392	296,4
11006411	12555897	18 x 1,5	13,2	428	324,0
11006460	12568430	25 G 1,5	15,6	564	430,4
11006412	12555898	25 x 1,5	15,6	564	430,4
11006452	12565317	48 x 1,5	20,7	1035	814,8
11006425	12558114	2 x 2 x 1,5	10,0	166	89,9
11006442	12561927	3 x 2 x 1,5	10,6	199	123,8
11006419	12557233	2 x 2,5	7,0	101	64,1
34733	12557234	4 x 2,5	8,6	167	124,4
11006420	12557235	5 x 2,5	9,4	202	152,7
11006421	12557236	6 x 2,5	10,4	258	196,1
11006422	12557237	7 x 2,5	11,4	305	231,7
11006461	12568536	8 x 2,5	12,6	346	89,5
11006423	12557239	12 x 2,5	13,7	430	348,0
11006447	12563351	27 x 2,5	19,6	885	660,3

Dimensions and specifications may be changed without prior notice.

Halogen-Free, Compact, Single-Layer Power and Control Cable for General Applications

RADOX® 3 GKW 600V are single-core, compact power and control cables. They are halogen-free, flame-retardant, smoke-reduced and have a low toxicity index. The high requirements regarding temperature, abrasion and ozone resistance are easily fulfilled.

RADOX® 3 GKW Series (600/1000V)

RADOX® 3 GKW 600V

halogen-free, compact double insulated single core cable

Technical data

- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 Kl.5
- Core insulation: RADOX® EI 201
- Core identification: see table

Properties

- halogen-free and flame-retardant
- resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cores are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34657	12548125	1 x 0,5 GY	2,0	8	4,8
11006080	12553865	1 G 0,5 GN-YE	2,0	8	4,8
34400	12548126	1 x 0,75 GY	2,2	11	7,2
11006081	12553867	1 G 0,75 GN-YE	2,2	11	7,2
34401	12551402	1 x 1 GY	2,4	14	9,6
34414	12553869	1 G 1 GN-YE	2,4	14	9,6
34402	12545286	1 x 1,5 GY	2,7	19	14,4
34415	12553871	1 G 1,5 GN-YE	2,7	19	14,4
34403	12545288	1 x 2,5 GY	3,3	30	24,0
34416	12553873	1 G 2,5 GN-YE	3,3	30	24,0
34404	12545290	1 x 4 GY	3,9	46	38,4
34417	12553875	1 G 4 GN-YE	3,9	46	38,4
34405	12548127	1 x 6 GY	4,7	67	57,6
34418	12553877	1 G 6 GN-YE	4,7	67	57,6
34406	12545153	1 x 10 GY	5,8	113	96,0
34419	12547689	1 G 10 GN-YE	5,8	113	96,0
34407	12545292	1 x 16 GY	7,2	166	153,6
34420	12553879	1 G 16 GN-YE	7,2	166	153,6
34408	12543216	1 x 25 GY	8,9	253	240,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34421	12553881	1 G 25 GN-YE	8,9	253	240,0
34409	12548128	1 x 35 GY	10,2	359	336,0
34422	12553883	1 G 35 GN-YE	10,2	359	336,0
34410	12545155	1 x 50 GY	11,9	498	480,0
34731	12553885	1 G 50 GN-YE	11,9	498	480,0
34411	12543214	1 x 70 GY	14,3	712	672,0
34424	12553887	1 G 70 GN-YE	14,3	712	672,0
34412	12548671	1 x 95 GY	15,9	887	912,0
11006082	12553889	1 G 95 GN-YE	15,9	887	912,0
34413	12542936	1 x 120 GY	17,9	1140	1152,0
11006083	12553891	1 G 120 GN-YE	17,9	1140	1152,0
11006077	12548673	1 x 150 GY	20,3	1457	1440,0
11006084	12553893	1 G 150 GN-YE	20,3	1457	1440,0
11006078	12551404	1 x 185 GY	22,0	1728	1776,0
11006085	12555739	1 G 185 GN-YE	22,0	1728	1776,0
11006079	12551406	1 x 240 GY	25,2	2254	2304,0
35249	12555741	1 x 300 GY	28,0	2814	2880,0
11006086	12557104	1 x 400 GY	31,9	3756	3840,0

Dimensions and specifications may be changed without prior notice.

RADOX® 3 GKW 600V XM

halogen-free, compact and weight-optimised power cable

Technical data

- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core identification: RADOX® EI 201
- Core identification: grey cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104 acc. to EN 50264-1
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL2
- NFPA 130
- NF F16-101
- UNI CEI 11170

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006132	12561172	2 x 0,5	5,9	48	9,6
11006212	85006736	3 x 0,5	6,2	56	14,4
11006213	85006737	4 x 0,5	7,1	71	19,2
11006133	12561175	5 x 0,5	7,7	86	24,0
11006134	12561176	6 x 0,5	8,4	103	28,8
11006135	12561178	9 x 0,5	10,5	147	43,2
11006136	12561180	12 x 0,5	10,8	169	57,6
11006182	12567586	15 x 0,5	12,3	214	72,0
11006137	12561181	2 x 0,75	6,4	59	14,4
11006211	84142651	3 G 0,75	6,8	70	21,6
11006138	12561182	3 x 0,75	6,8	70	21,6
11006175	12566700	4 G 0,75	7,6	88	28,8
11006139	12561183	4 x 0,75	7,6	88	28,8
11006198	12581529	5 G 0,75	8,4	107	36,0
11006193	12568604	6 G 0,75	9,0	126	43,2
11006194	12568622	7 G 0,75	10,0	152	50,4
11006140	12561186	7 x 0,75	10,0	151	50,4
35271	12561819	8 x 0,75	10,9	177	57,6
11006197	12581443	9 G 0,75	11,3	194	64,8
11006141	12561189	12 x 0,75	11,9	217	86,4
11006164	12561820	14 x 0,75	12,6	241	100,8
11006165	12561821	20 x 0,75	15,2	354	144,0
11006169	12562310	16 x 0,75	13,5	281	115,2
34435	12561190	2 x 1	6,9	71	19,2
11006142	12561191	3 x 1	7,4	857	28,8
34437	12561192	4 x 1	8,4	110	38,4
11006143	12561193	5 x 1	9,2	135	48,0
11006144	12561194	6 x 1	10,0	160	57,6
11006145	12561195	7 x 1	10,9	185	67,2
11006146	12561196	9 x 1	12,5	222	86,4
11006147	12561197	10 x 1	12,5	231	96,0
11006148	12561198	12 x 1	13,0	265	115,2
11006192	12568300	25 x 1	18,7	519	240,0
11006183	12567588	2 G 1,5	7,5	85	28,8
35245	12561199	2 x 1,5	7,5	85	28,8
34428	12563588	3 G 1,5	8,0	109	43,2
11006149	12561200	3 x 1,5	8,0	106	43,2
35264	12563589	4 G 1,5	9,0	135	57,6
11006150	12561201	4 x 1,5	9,0	135	57,6
11006184	12567589	5 G 1,5	10,2	169	72,0
11006151	12561202	5 x 1,5	10,2	169	72,0
11006203	12583845	6 G 1,5	11,1	199	86,4
11006152	12561203	6 x 1,5	11,1	199	86,4
11006170	12564173	7 G 1,5	12,1	158	100,8
11006153	12561204	7 x 1,5	12,1	237	100,8
11006200	12582522	8 x 1,5	13,3	281	115,2
11006199	12581530	9 G 1,5	13,7	277	129,6
11006195	12568729	10 G 1,5	13,7	301	144,0
11006216	85028702	10 x 1,5	13,7	318	144,0
11006185	12567590	12 G 1,5	14,2	338	172,8
34429	12561207	12 x 1,5	14,2	338	172,8
11006208	84116849	16 x 1,5	16,2	442	230,4
11006209	84117785	18 G 1,5	17,2	503	259,2
11006191	12567941	19 x 1,5	18,2	545	273,6
11006207	84116846	25 x 1,5	20,4	655	360,0
11006177	12567364	36 x 1,5	23,2	918	518,4
11006154	12561208	2 x 2,5	8,8	123	48,0
34430	12563590	3 G 2,5	9,5	154	72,0
11006131	12561085	3 x 2,5	9,5	157	72,0
34431	12566698	4 G 2,5	10,7	200	96,0

Continuation ►

RADOX® 3 GKW 600V XM

halogen-free, compact and weight-optimised power cable

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006155	12561209	4 x 2,5	10,7	200	96,0
11006186	12567591	5 G 2,5	11,8	244	120,0
34777	12561210	5 x 2,5	11,8	244	120,0
11006156	12561211	6 x 2,5	12,9	290	144,0
11006187	12567592	7 G 2,5	14,0	343	168,0
11006157	12561212	7 x 2,5	14,0	358	168,0
11006158	12561213	9 x 2,5	16,4	424	216,0
11006159	12561214	10 x 2,5	16,5	463	240,0
11006160	12561215	12 x 2,5	17,2	515	288,0
11006189	12567594	24 x 2,5	24,0	965	576,0
11006188	12567593	25 x 2,5	24,5	994	600,0
11006202	12583722	30 x 2,5	25,9	1860	720,0
11006176	12566919	42 G 2,5	31,0	1687	1008,0
11006161	12561216	2 x 4	10,4	181	76,8
35257	12563591	3 G 4	11,1	222	115,2
11006166	12561822	3 x 4	11,1	223	115,2
11006174	12566542	4 G 4	12,4	288	153,6
34434	12561823	4 x 4	12,4	288	153,6
11006173	12565993	4 V 4	12,4	288	153,6
11006190	12567596	5 G 4	14,0	359	192,0
11006162	12561218	5 x 4	14,0	359	192,0
11006201	12583215	10 x 4	19,4	677	384,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006181	12567458	2 x 6	12,1	256	115,2
11006167	12561824	3 x 6	12,9	323	172,8
34432	12567536	4 G 6	14,6	417	230,4
34438	12561080	4 x 6	14,6	417	230,4
35157	12567454	5 G 6	16,8	533	288,0
11006171	12564572	5 x 6	16,8	533	288,0
11006196	12581318	7 x 6	20,3	766	403,2
11006215	85017208	2 x 10	14,6	387	192,0
11006168	12561825	3 x 10	16,0	513	288,0
35260	12567616	4 G 10	17,9	667	384,0
11006163	12561561	4 x 10	17,9	662	384,0
11006178	12567455	5 G 10	19,8	816	480,0
34436	12566137	3 x 16	19,5	745	460,8
34433	12561826	4 x 16	22,1	1013	614,4
11006179	12567456	4 G 16	22,1	1013	614,4
11006204	12585843	4 V 16	22,1	1013	614,4
11006210	84126032	5 x 16	24,3	1173	768,0
11006205	84104017	6 x 16	27,3	1463	921,6
11006172	12565118	3 x 25	23,8	1122	720,0
11006214	85010213	5 G 25	29,8	1784	1200,0
11006206	84104053	2 x 35	24,7	1149	672,0
11006180	12567457	4 G 35	30,3	1924	1344,0

Dimensions and specifications may be changed without prior notice.

RADOX® 3 GKW 600V XM S

halogen-free, compact and weight-optimised power cable, screened

Technical data

- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core identification: RADOX® EI 201,
- Core identification: grey cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104 acc. to EN 50264-1
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- BS 6853, GM/RT 2130
- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NFPA 130
- NF F16-101
- UNI CEI 11170

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006354	12561219	2 x 0,5	6,6	68	21,0
11006355	12561220	3 x 0,5	6,9	76	29,0
11006356	12561221	4 x 0,5	7,5	93	37,0
11006357	12561222	5 x 0,5	8,4	111	43,0
11006358	12561223	6 x 0,5	9,3	141	55,6
11006359	12561224	7 x 0,5	9,8	155	85,4
11006360	12561227	12 x 0,5	11,8	218	93,0
11006394	85028418	25 x 0,5	16,5	437	191,5
11006380	12567598	2 x 2 x 0,5	10,6	153	74,2
11006379	12566368	6 x 2 x 0,5	16,5	353	142,8
11006393	85003451	9 x 2 x 0,5	20,6	532	185,4
34473	12561228	2 x 0,75	7,0	81	31,0
11006361	12561229	3 x 0,75	7,5	93	40,9
11006362	12561230	4 x 0,75	8,1	112	47,0
11006391	84139937	4 G 0,75	8,1	112	47,0
11006363	12561231	5 x 0,75	9,0	139	56,0
11006364	12561232	6 x 0,75	9,9	165	80,3
11006365	12561233	7 x 0,75	10,7	197	87,1
11006370	12561827	8 x 0,75	11,2	217	99,4
11006366	12561234	9 x 0,75	12,3	245	127,2
11006367	12561235	10 x 0,75	12,3	246	120,0
11006368	12561236	12 x 0,75	12,6	265	126,8
11006373	12562206	16 x 0,75	14,4	347	185,6
11006371	12561828	2 x 2 x 0,75	10,8	158	49,2
11006378	12566117	5 x 2 x 0,75	16,0	352	151,3
11006326	12559722	2 x 1	7,6	98	37,0
11006327	12559723	3 x 1	8,1	111	46,8
11006328	12559724	4 x 1	8,8	139	69,8
11006329	12559727	7 x 1	11,8	233	127,3
11006383	12585329	16 x 1	15,9	435	223,8

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006382	12569225	2 x 2 x 1	12,5	215	75,9
34440	12559728	2 x 1,5	8,2	112	54,3
34439	12559729	3 x 1,5	8,6	133	62,4
34442	12565287	3 G 1,5	8,6	141	73,0
34444	12559730	4 x 1,5	9,6	167	89,7
34448	12568731	4 G 1,5	9,6	167	89,7
11006330	12559731	5 x 1,5	10,9	207	108,0
35322	12565288	5 G 1,5	10,9	208	108,0
11006331	12559732	6 x 1,5	11,8	237	129,0
11006332	12559733	7 x 1,5	13,0	297	143,0
11006385	84101306	7 G 1,5	13,0	297	153,9
11006381	12567854	8 x 1,5	14,2	350	178,1
11006344	12559844	9 x 1,5	14,9	323	205,3
11006375	12565289	10 G 1,5	14,5	366	204,5
11006345	12559845	12 x 1,5	15,4	428	244,7
11006384	12585633	12 G 1,5	15,4	430	244,7
11006346	12559846	16 x 1,5	17,4	544	303,0
11006388	84109154	25 x 1,5	21,6	811	475,9
11006374	12562489	27 x 1,5	21,6	823	503,8
34995	12559853	2 x 2 x 1,5	12,7	216	121,8
11006350	12559855	6 x 2 x 1,5	19,9	566	278,9
34441	12559734	2 x 2,5	9,6	159	75,9
11006390	84139932	2 G 2,5	9,6	159	75,9
11006333	12559735	3 x 2,5	10,4	199	108,9
34447	12566192	3 G 2,5	10,4	203	108,9
11006334	12559736	4 x 2,5	11,3	241	135,0
34450	12582562	4 G 2,5	11,3	241	132,5
11006376	12565290	5 G 2,5	12,4	287	160,0
11006335	12559739	7 x 2,5	15,7	445	243,1
11006347	12559847	8 x 2,5	17,2	530	275,3

Continuation ▸

RADOX® 3 GKW 600V XM S

halogen-free, compact and weight-optimised power cable, screened

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006387	84109142	25 x 2,5	26,2	1240	764,7
35259	12559743	3 x 4	11,8	272	156,0
11006377	12565291	3 G 4	11,8	288	156,0
34445	12559848	4 x 4	13,4	349	197,9
34443	12582563	4 G 4	13,4	355	206,0
11006369	12561508	5 x 4	14,7	377	266,5
11006352	12560867	2 x 6	12,9	309	166,2
11006336	12559744	3 x 6	13,8	389	234,0
11006337	12559745	4 x 6	15,6	493	283,0
34451	12567507	4 G 6	15,6	493	283,0
11006348	12559849	5 x 6	17,3	610	379,1
11006392	84152221	2 x 10	15,8	482	263,2
11006338	12559746	3 x 10	17,2	629	363,0
11006339	12559747	4 x 10	19,2	765	490,3
34449	12560389	4 G 10	19,2	785	490,3

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006372	12562116	5 x 10	21,1	947	600,0
34452	12582564	5 G 10	21,1	947	592,5
11006340	12559748	6 x 10	23,1	1130	720,0
35263	84090510	2 x 16	19,2	702	414,5
11006341	12559749	3 x 16	20,6	864	520,0
35268	12559850	4 x 16	23,2	1092	680,0
11006389	84128245	4 G 16	23,2	1104	740,1
11006349	12559851	5 x 16	25,7	1357	907,2
11006386	84107672	5 G 16	25,7	1359	908,3
34446	12566322	2 x 25	22,9	998	598,5
11006351	12560047	3 x 25	24,8	1259	874,4
11006342	12559750	4 x 25	28,3	1653	1151,6
11006343	12559752	4 x 35	31,6	2169	1605,6
11006353	12560868	2 x 50	29,8	1752	1112,0

Dimensions and specifications may be changed without prior notice.

Cables and Wires for Rail Vehicles

- nominal voltage of 600/1800/3600 V AC
- improved behaviour in case of fire
- reduced insulation wall thicknesses

Thanks to the development of new RADOX® high-performance plastics, HUBER+SUHNER is able to meet the demanding requirements of the EN 50264 standard. (Property level: M)

RADOX® EN50264 Series (600-3600V)

RADOX® EN 50264-3-1 600V M

halogen-free, compact double insulated single core cable

Technical data

- core with reduced insulation wall thickness
- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Outer sheath: RADOX® EI 109
- Outer sheath colour: see table
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NFPA 130
- NF F16-101 classification, category C/F1, int. A1, A2, B/ext. A1, A2, B

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cores are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- The core cable is used as a sub-component in cables according to EN 50264-3-2.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34599	85096345	1 x 1 BK	2,5	14	9,6
11006539	85096351	1 G 1 GN-YE	2,5	14	9,6
34600	85096346	1 x 1,5 BK	3,0	21	14,4
34610	85096352	1 G 1,5 GN-YE	3,0	21	14,4
34601	85096347	1 x 2,5 BK	3,4	31	24,0
34611	85096353	1 G 2,5 GN-YE	3,4	31	24,0
34602	85096346	1 x 4 BK	4,0	49	38,4
34612	85096354	1 G 4 GN-YE	4,0	49	38,4
34603	85096349	1 x 6 BK	4,6	70	57,6
34613	85096355	1 G 6 GN-YE	4,6	70	57,6
34604	85096350	1 x 10 BK	5,5	113	96,0
11006540	85096356	1 G 10 GN-YE	5,5	113	96,0
34605	85097024	1 x 16 BK	6,8	166	153,6
11006541	85097025	1 G 16 GN-YE	6,8	166	153,6
34606	85097026	1 x 25 BK	8,5	251	240,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006542	85097027	1 G 25 GN-YE	8,5	251	240,0
34607	85097028	1 x 35 BK	9,7	363	336,0
11006543	85097029	1 G 35 GN-YE	9,7	363	336,0
34608	85097030	1 x 50 BK	11,4	502	480,0
11006544	85097031	1 G 50 GN-YE	11,4	502	480,0
34609	85097032	1 x 70 BK	13,8	712	672,0
11006545	85097033	1 G 70 GN-YE	13,8	712	672,0
35301	85097034	1 x 95 BK	15,3	902	912,0
11006546	85097036	1 G 95 GN-YE	15,3	902	912,0
11006547	85097037	1 x 120 BK	17,2	1148	1152,0
11006548	85097038	1 G 120 GN-YE	17,2	1148	1152,0
11006549	85097039	1 x 150 BK	19,2	1445	1440,0
11006550	85097048	1 x 185 BK	21,4	1744	1776,0
11006551	85097050	1 x 240 BK	24,6	2263	2304,0
11006552	85097052	1 x 300 BK	27,2	2849	2880,0

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50264-3-2 600V MM

halogen-free, compact power cable

Technical data

- compliant with the requirements acc. to EN 50264-3-2
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110 / EI 109
- Core identification: black cores with consecutive labeling in white digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006579	85070991	12 x 0,75	11,8	220	86,4
11006569	84090647	2 x 1	6,6	64	19,2
11006574	84126778	4 G 1	7,9	98	38,4
11006570	84090705	4 x 1	7,9	98	38,4
11006575	84126780	7 G 1	10,3	148	67,2
11006571	84090707	9 G 1	12,1	228	86,4
35302	12586174	2 x 1,5	7,6	85	288,0
11006554	12586176	3 G 1,5	8,1	110	43,2
35303	12585380	3 x 1,5	8,1	110	43,2
35305	12586178	4 G 1,5	9,0	138	57,6
35308	12586177	4 x 1,5	9,0	138	57,6
11006578	85003501	5 G 1,5	9,9	166	72,0
11006577	85003500	5 x 1,5	9,9	166	72,0
11006572	84122375	7 G 1,5	10,9	215	100,8
11006576	84132938	7 x 1,5	10,9	215	100,8
11006573	84122376	9 G 1,5	14,6	340	129,6
35319	12586179	2 x 2,5	8,3	119	48,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006555	12586180	3 x 2,5	8,9	154	72,0
35306	12586182	4 G 2,5	10,1	198	96,0
11006556	12586181	4 x 2,5	10,1	198	96,0
11006557	12586183	2 x 4	10,4	180	76,8
35304	12586184	3 x 4	11,1	244	115,2
35307	12586187	4 G 4	12,6	290	153,6
11006559	12586189	3 x 6	12,5	301	172,8
11006561	12586191	4 G 6	14,3	395	230,4
35214	12586192	2 x 10	13,8	368	192,0
11006563	12586196	4 G 10	16,8	605	384,0
11006562	12586195	4 x 10	16,8	605	0,84
11006566	12586208	5 G 10	18,7	753	480,0
11006564	12586203	4 x 25	24,4	1260	960,0
11006565	12586207	2 x 50	26,7	1455	960,0
11006553	12585381	3 x 50	28,8	1950	1440,0
11006567	12586209	3 x 50 + 1 G 25	31,9	2367	1680,0

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50264-3-2 600V MM S

halogen-free, compact power cable, screened

Technical data

- compliant with the requirements acc. to EN 50264-3-2
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110 / EI 109
- Core identification: black cores with consecutive labeling in white digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath : RADOX® EM 104
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F1, int. A1, A2, B/ext. A1, A2, B

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006691	12585382	2 x 1,5	8,3	110	49,3
34615	12586212	3 G 1,5	8,7	139	66,3
11006693	12586211	3 x 1,5	8,7	139	66,3
34618	12586214	4 G 1,5	10,0	183	89,9
11006694	12586213	4 x 1,5	10,0	183	89,9
34616	84085219	3 G 2,5	9,5	184	96,1
11006695	12586216	3 x 2,5	9,5	184	96,1
34619	12586218	4 G 2,5	11,1	239	133,5
11006696	12586217	4 x 2,5	11,1	239	133,5
34614	12586219	2 x 4	11,3	229	114,3
11006697	12586220	3 x 4	12,2	291	152,7

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34621	85006436	4 G 4	13,5	359	209,9
34745	12586221	4 x 4	13,5	359	208,9
34620	12586223	3 x 6	13,6	378	236,7
34622	12586225	4 G 6	15,1	478	301,6
34861	12586224	4 x 6	15,1	478	301,6
11006699	12586227	3 x 10	15,6	543	361,0
11006700	12586229	4 G 10	17,5	649	466,8
34617	12586231	3 x 16	19,2	780	567,1
34746	12586232	4 x 16	21,4	1017	669,7
34623	85002921	5 G 16	24,2	1256	903,5
11006701	12586234	3 x 25	22,7	1161	846,9

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50264-3-1 1800V M

halogen-free, compact double insulated single core cable

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Outer sheath: RADOX® EI 109
- Outer sheath colour: see table
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F1, int. A1, A2, B/ext. A1, A2, B

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34741	12584866	1 x 1,5 BK	5,5	49	14,4
11006580	12584867	1 G 1,5 GN-YE	5,5	49	14,4
34742	12584868	1 x 2,5 BK	6,1	62	24,0
11006581	12584869	1 G 2,5 GN-YE	6,1	62	24,0
11006582	12584870	1 x 4 BK	6,7	81	38,4
11006583	12584871	1 G 4 GN-YE	6,7	81	38,4
11006584	12584872	1 x 6 BK	7,2	103	57,6
11006585	12584873	1 G 6 GN-YE	7,2	103	57,6
11006586	12584874	1 x 10 BK	8,2	154	96,0
11006587	12584875	1 G 10 GN-YE	8,2	154	96,0
11006588	12584876	1 x 16 BK	9,6	217	153,6
11006589	12584877	1 G 16 GN-YE	9,6	217	153,6
11006590	12584878	1 x 25 BK	11,0	308	240,0
11006591	12584880	1 x 35 BK	12,2	400	336,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006592	12584881	1 G 35 GN-YE	12,2	400	336,0
11006593	12584882	1 x 50 BK	13,7	566	480,0
11006594	12584883	1 G 50 GN-YE	13,7	566	480,0
11006595	12584884	1 x 70 BK	16,2	764	672,0
11006596	12584885	1 G 70 GN-YE	16,2	764	672,0
35315	12584886	1 x 95 BK	17,6	963	912,0
11006597	12584887	1 G 95 GN-YE	17,6	963	912,0
11006598	12584888	1 x 120 BK	19,7	1212	1152,0
11006599	12584889	1 G 120 GN-YE	19,7	1212	1152,0
11006600	12584890	1 x 150 BK	21,6	1495	1440,0
11006601	12584892	1 x 185 BK	23,5	1812	1776,0
11006602	12584894	1 x 240 BK	26,4	2305	2304,0
11006603	12584896	1 x 300 BK	29,0	2848	2880,0

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50264-3-1 1800V MM

halogen-free, compact double insulated single core cable

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -40°C to +120°C
  fixed -40°C to +120°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Inner sheath: RADOX® EI 109
- Inner sheath colour: black
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F1, int. A1, A2, B/ext. A1, A2, B

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006604	12585360	1 x 1,5	5,9	53	14,4
34743	12585365	1 x 16	10,4	239	153,6
34595	12585366	1 x 25	12,7	354	240,0
34596	12585367	1 x 35	13,9	470	336,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34597	12585368	1 x 50	15,4	615	480,0
34598	12585369	1 x 70	17,7	845	672,0
34744	12585370	1 x 95	20,0	1067	912,0
11006605	12585374	1 x 240	29,4	2530	2304,0

Dimensions and specifications may be changed without prior notice.

RADOX® EN 50264-3-1 3600V MM

halogen-free, compact double insulated single core cable

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 3600/6000 V
- **Test voltage**
  11000 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Semiconductor: colour black
- Core insulation: RADOX® EI 110
- Core identification: white
- Inner sheath: RADOX® EI 109
- Inner sheath colour: black
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006606	12586151	1 x 2,5	9,7	132	24,0
11006607	12586155	1 x 6	10,9	184	57,6
11006608	12586157	1 x 10	12,0	246	96,0
11006609	12586159	1 x 16	13,1	317	153,6
11006610	12586163	1 x 35	16,8	574	336,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006611	12586165	1 x 50	18,3	737	480,0
11006612	12586167	1 x 70	20,7	979	672,0
11006613	12586169	1 x 120	24,4	1458	1152,0
11006614	12586172	1 x 240	32,2	2730	2304,0

Dimensions and specifications may be changed without prior notice.

Halogen-Free, Compact Power Cable

RADOX® 4 GKW-AX 1800V are compact, flexible power cables that have been developed with minimum cable weights and cable diameters. They meet the high requirements of today's railway industry.

RADOX® 4 GKW-AX 1800V double insulated single core cables are suitable for protected, permanent installation inside and outside rail vehicles in DC and AC technology, especially for converter applications.

RADOX® 4 GKW-AX Series (1800/3000V)

RADOX® 4 GKW-AX 1800V M

halogen-free, compact power cable

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Outer sheath: RADOX® EI 109
- Outer sheath colour: see table
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- BS 6853 category int. Ia, Ib, II/ext. Ia, Ib, II
- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NFPA 130
- NF F16-101 classification, category C/F0, int. A1, A2, B/ext. A1, A2, B
- UNI CEI 11170 LR1 - LR4

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35223	84118052	1 x 0,5 BK	2,5	11	4,8
11006746	84118058	1 x 0,5 GY	2,5	11	4,8
11006743	84118053	1 x 0,5 BN	2,5	11	4,8
11006744	84118056	1 x 0,5 BU	2,5	11	4,8
11006745	84118057	1 x 0,5 RD	2,5	11	4,8
11006761	85068090	1 x 0,5 OG	2,5	11	4,8
11006747	84118059	1 x 0,75 BK	2,7	14	7,2
11006763	85070897	1 x 0,75 RD	2,7	14	7,2
34458	12555986	1 x 1 BK	3,0	18	9,6
11006738	12584492	1 x 1 BN	3,0	18	9,6
11006740	12586321	1 x 1 YE	3,0	18	9,6
34459	12536686	1 x 1,5 BK	3,4	24	14,4
11006731	12567226	1 x 1,5 GY	3,4	24	14,4
11006765	85078975	1 x 1,5 BN	3,4	24	14,4
11006723	12543842	1 x 1,5 BU	3,4	24	14,4
11006764	85078973	1 x 1,5 WH	3,4	24	14,4
11006728	12562189	1 x 1,5 YE	3,4	24	14,4
35241	12555769	1 x 1,5 RD	3,4	24	14,4
34460	12536692	1 x 2,5 BK	3,8	34	24,0
11006742	84091279	1 x 2,5 GY	3,8	34	24,0
11006739	12584664	1 x 2,5 BN	3,8	34	24,0
11006760	85067625	1 x 2,5 BU	3,8	34	24,0
11006725	12554310	1 x 2,5 RD	3,8	34	24,0
11006759	85067621	1 x 2,5 YE	3,8	34	24,0
34461	12536694	1 x 4 BK	4,5	52	38,4
34938	85066538	1 x 4 BU	4,5	52	38,4
34940	12559555	1 x 4 RD	4,5	52	38,4
11006750	85023707	1 x 4 WH	4,5	52	38,4
34939	85067561	1 x 4 YE	4,5	52	38,4
34462	12536696	1 x 6 BK	5,2	74	57,6
11006732	12568594	1 x 6 BU	5,2	74	57,6
11006736	12582984	1 x 6 RD	5,2	74	57,6
11006741	84090550	1 x 6 WH	5,2	74	57,6

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006751	85031740	1 x 6 YE	5,2	74	57,6
34463	12545527	1 x 10 BK	6,4	123	96,0
11006758	85067547	1 x 10 BU	6,4	123	96,0
11006737	12582985	1 x 10 RD	6,4	123	96,0
11006757	85067546	1 x 10 YE	6,4	123	96,0
34464	12545528	1 x 16 BK	8,4	192	153,6
11006755	85067520	1 x 16 BU	8,4	192	153,6
11006729	12566008	1 x 16 RD	8,4	192	153,6
11006756	85067521	1 x 16 YE	8,4	192	153,6
34465	12545529	1 x 25 BK	10,2	288	240,0
11006733	12568968	1 x 25 RD	10,2	288	240,0
34466	12545530	1 x 35 BK	11,7	406	336,0
11006748	85019626	1 x 35 BU	11,7	406	336,0
35201	12568008	1 x 35 RD	11,7	406	336,0
11006749	85019627	1 x 35 YE	11,7	406	336,0
34467	12545531	1 x 50 BK	13,5	561	480,0
11006734	12582459	1 x 50 RD	13,5	561	480,0
34468	12545532	1 x 70 BK	15,8	749	672,0
11006730	12566010	1 x 70 RD	15,8	749	672,0
34469	12545533	1 x 95 BK	17,5	959	912,0
11006735	12582460	1 x 95 RD	17,5	959	912,0
34470	12544522	1 x 120 BK	19,8	1217	1152,0
11006762	85070814	1 x 120 RD	19,8	1217	1152,0
34471	12545534	1 x 150 BK	22,1	1522	1440,0
11006753	85067494	1 x 150 BU	22,1	1522	1440,0
11006752	85067468	1 x 150 RD	22,1	1522	1440,0
11006754	85067495	1 x 150 YE	22,1	1522	1440,0
34472	12544523	1 x 185 BK	24,0	1841	1776,0
11006727	12559659	1 x 185 RD	24,0	1841	1776,0
34752	12547684	1 x 240 BK	27,0	2344	2304,0
11006724	12552906	1 x 300 BK	29,9	2913	2880,0
11006726	12555997	1 x 400 BK	34,1	3885	3840,0

Dimensions and specifications may be changed without prior notice

RADOX® 4 GKW-AX 1800V MM S

halogen-free, compact double insulated single core cable, screened

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Inner sheath: RADOX® EI 109
- Inner sheath colour: black
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- GOST 31565 O1.8.1.2.1 (single), P1b.8.1.2.1 (bundle)
- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006787	12556535	1 x 1,5	5,4	51	14,4
11006788	12556536	1 x 2,5	6,1	71	24,0
35234	12556537	1 x 4	6,8	92	38,4
11006789	12556538	1 x 6	7,7	122	57,6
35262	12556539	1 x 10	9,2	186	96,0
35258	12556540	1 x 16	11,3	278	153,6
11006790	12556541	1 x 25	13,7	408	240,0
35266	12556542	1 x 35	15,1	536	336,0
34474	12556543	1 x 50	17,0	706	480,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34475	12556544	1 x 70	19,5	970	672,0
34476	12556545	1 x 95	21,2	1194	912,0
11006791	12556546	1 x 120	23,6	1520	1152,0
11006792	12556547	1 x 150	26,2	1880	1440,0
34937	12556548	1 x 185	28,2	2197	1776,0
35219	12556549	1 x 240	31,4	2727	2304,0
11006793	12558471	1 x 300	34,6	3396	2880,0
11006794	84134935	1 x 400	39,5	4800	3840,0

Dimensions and specifications may be changed without prior notice.

RADOX® 4 GKW-AX 1800V MM S

halogen-free, compact power cable, screened

Technical data

- compliant with the requirements acc. to EN 50264-3
- **Temperaturbereich**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110 / EI 109
- Core identification: black cores with consecutive labeling in white digits green-yellow (optional)
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- GOST 31565 O1.8.2.1 (single), P1b.8.1.2.1 (bundle)
- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006797	12552642	2 x 1,5	9,6	141	48,8
11006806	12566644	3 x 1,5	10,5	181	75,3
11006814	84143442	5 x 1,5	13,4	302	126,8
11006802	12564185	6 x 1,5	14,6	350	149,3
11006815	84147192	8 x 1,5	17,4	491	198,6
11006809	12583411	2 x 2,5	10,8	193	80,5
11006803	12564186	3 x 2,5	11,6	236	109,3
11006812	12586442	4 x 2,5	13,0	300	150,9
11006807	12568683	4 x 4	15,4	427	213,6
11006811	12584343	3 x 6	15,4	455	244,7
11006813	12586443	4 x 6	17,3	563	303,5
11006798	12556070	3 x 10	18,3	661	375,4
11006804	12564357	3 x 16	23,4	1029	597,2

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006810	12584305	4 x 16	26,6	1334	791,2
11006805	12564358	3 x 25	28,4	1537	911,6
35156	12563356	4 x 25	33,0	2104	1233,6
11006808	12583239	2 x 35	29,8	1600	864,5
11006799	12561687	3 x 35	31,7	1998	1228,0
34483	12563359	3 x 35 + 1 x 10	33,0	2142	1321,3
11006800	12563357	4 x 35	37,2	2733	1671,4
34482	12583154	2 x 50	34,3	2174	1260,1
11006801	12563360	3 x 50 + 1 x 10	37,0	2708	1918,2
11006796	12552458	4 x 50	41,7	3600	2220,0
11006816	85002075	2 x 70	39,7	2940	1705,9
34484	12551966	3 x 70 + 1 x 10	41,9	3610	2380,0
34486	12557169	4 x 70	47,9	4700	3152,0

Dimensions and specifications may be changed without prior notice.

RADOX® 4 GKW-AX 1800V M J

halogen-free, compact double insulated single core cable for flexible applications

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -30°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible 10x Outer-Ø
  fixed at bending angle
  > 90° ⩽ 10 mm 3x Outer-Ø
  > 90° > 10 mm 4x Outer-Ø
  < 90° all 2x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228
- Core insulation: RADOX® EI 110
- Core identification: white
- Outer sheath: RADOX® EI 109
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- highly flexible

Tests

- BS 6853, GM/RT 2130 Ia,Ib, II
- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NFPA 130
- NF F16-101 classification, category C/F1, int. A1, A2, B/ext. A1, A2, B
- UNI CEI 11170 LR1 - LR4

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where frequent bending stress without torsional stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34477	12557793	1 x 16	9,1	11	215,0
11006766	12558031	1 x 25	11,2	14	325,0
34478	12558032	1 x 35	12,6	18	428,0
11006767	12558033	1 x 50	15,2	24	642,0
34479	12558034	1 x 70	16,7	34	812,0
34480	12558035	1 x 95	18,8	52	1035,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006768	12558036	1 x 120	21,2	74	1373,0
11006769	12558037	1 x 150	22,8	123	1681,0
34481	12558038	1 x 185	25,5	192	2107,0
11006770	12558039	1 x 240	29,2	288	2656,0
11006771	12559787	1 x 300	31,4	406	3236,0
11006772	85079754	1 x 400	32,9	561	4480,0

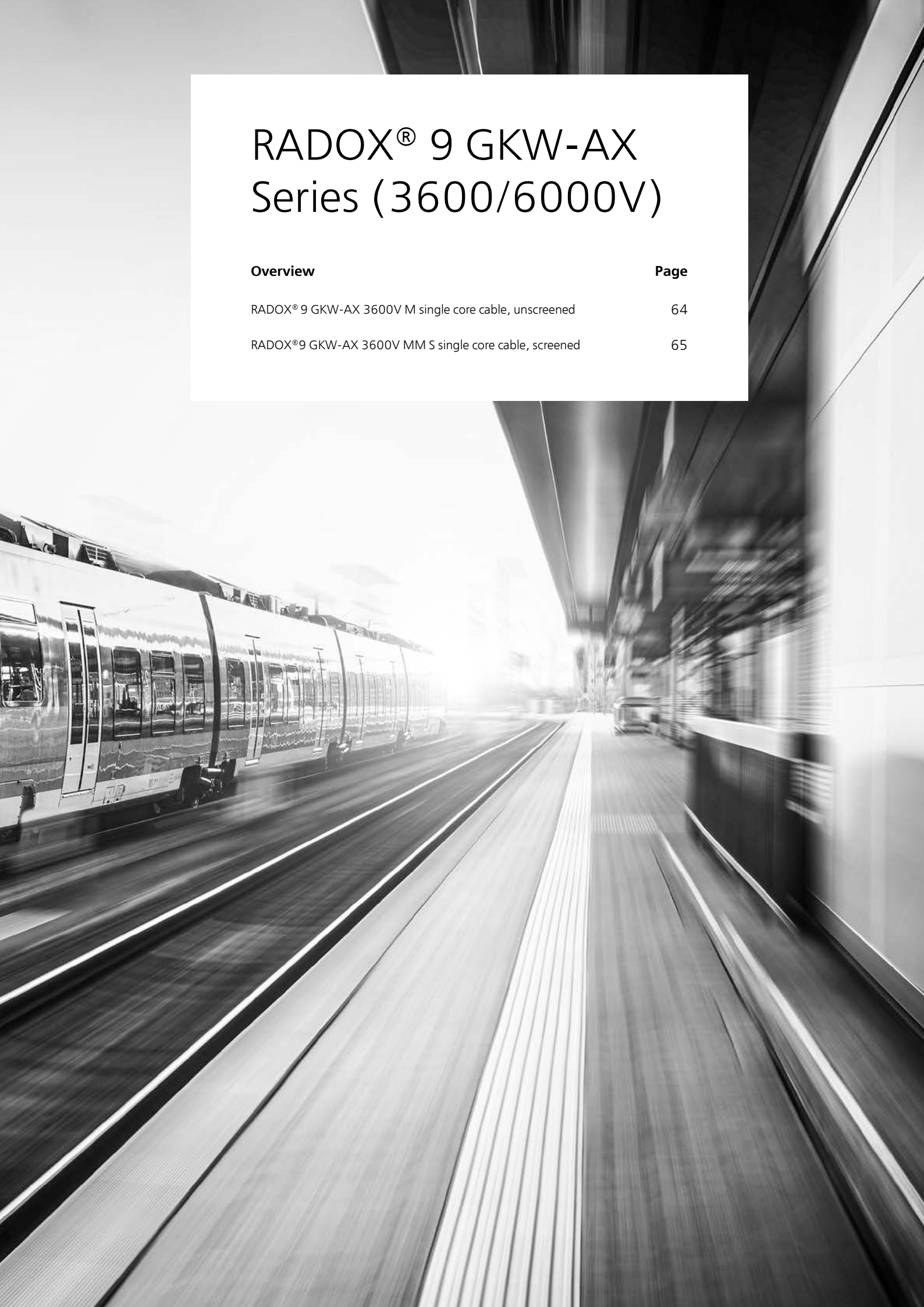
Dimensions and specifications may be changed without prior notice.

Halogen-Free, Compact, Double-Layer Power Cable

RADOX® 9 GKW-AX 3600V M are compact, flexible power cables, designed with minimum cable weights and cable diameters. They meet the high requirements of today's railway industry. Furthermore, these cables are halogen-free, low-smoke, flame-retardant and have a low toxicity index. It also fulfils the requirements regarding temperature, abrasion, ozone and oil resistance without any problems.

RADOX® 9 GKW-AX 3600V M double insulated single core cables are suitable for protected, permanent installation inside and outside rail vehicles in DC and AC technology, especially for converter applications.

RADOX® 9 GKW-AX Series (3600/6000V)



RADOX® 9 GKW-AX 3600V M

halogen-free, compact double insulated single core cable

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 3600/6000 V
- **Test voltage**
  11000 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: red
- Outer sheath: RADOX® EI 109
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- BS 6853, GM/RT 2130 Ia, Ib, II
- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34734	12537829	1 x 1,5	4,5	35	14,4
34487	12537830	1 x 2,5	5,1	49	24,0
11006705	12537831	1 x 4	5,7	67	38,4
11000576	12537832	1 x 6	6,3	90	57,6
35216	12545520	1 x 10	7,5	142	96,0
34737	12544525	1 x 16	9,4	213	153,6
35236	12547257	1 x 25	11,0	308	240,0
35199	12547260	1 x 35	12,6	432	336,0
34736	12545521	1 x 50	14,6	598	480,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34764	12547262	1 x 70	16,7	802	672,0
34488	12547264	1 x 95	18,7	1024	912,0
34998	12545522	1 x 120	21,0	1290	1152,0
11006706	12547268	1 x 150	23,2	1609	1440,0
35232	12545523	1 x 185	25,0	1921	1776,0
34996	12547678	1 x 240	28,0	2458	2304,0
11006707	12551573	1 x 300	30,8	3044	2880,0
11006722	12564160	1 x 400	35,3	4077	3840,0

Dimensions and specifications may be changed without prior notice.

RADOX® 9 GKW-AX 3600V MM S

halogen-free, compact double insulated single core cable, screened

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 3600/6000 V
- **Test voltage**
  11000 V
- **Minimum bending radius**
  flexible
  ⩽ 12 mm 4x Outer-Ø
  > 12 mm 5x Outer-Ø
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Inner sheath: RADOX® EI 109
- Inner sheath colour: black
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NF F16-101 classification, category C/F0, int. A1, A2, B/ext. A1, A2, B
- UNI CEI 11170 LR1 - LR4

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006708	12556520	1 x 1,5	6,8	74	18,4
11006709	12556521	1 x 2,5	7,6	97	38,2
11006710	12556522	1 x 4	8,3	121	53,8
11006711	12556523	1 x 6	9,1	156	80,5
11006712	12556524	1 x 10	10,4	222	127,5
11006713	12556525	1 x 16	12,9	354	209,0
35227	12556526	1 x 25	14,3	430	283,6
11006714	12556527	1 x 35	15,7	557	395,5

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35248	12556528	1 x 50	17,7	740	540,5
11006715	12556529	1 x 70	20,2	1018	777,4
11006716	12556530	1 x 95	22,2	1261	1039,8
11006717	12556531	1 x 120	25,3	1585	1291,2
11006718	12556532	1 x 150	27,6	1945	1595,3
11006719	12556533	1 x 185	29,6	2292	1944,4
11006720	12556534	1 x 240	32,7	2877	2521,8
11006721	12558472	1 x 300	36,3	3651	3255,3

Dimensions and specifications may be changed without prior notice.

HUBER+SUHNER designs and manufactures a wide product range of RADOX® Jumper cables for data and power transmission.

The design and material selection of RADOX® Jumper cables is specifically tailored to the demanding applications that combine permanent movements and increased fire protection requirements.

RADOX® JUMPER Series (1800V)

RADOX® JUMPER 1800V M

halogen-free, compact double insulated single core cable for flexible applications

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -30°C to +110°C
  fixed -50°C to +110°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible 8x Outer-Ø
  fixed at bending angle
  > 90° ⩽ 10 mm 3x Outer-Ø
  > 90° > 10 mm 4x Outer-Ø
  < 90° all 2x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Outer sheath: RADOX® EM 104J
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- highly flexible
- mechanically robust, high abrasion resistance
- very good resistance to: oil, fuel, acids, alkalis, ozone and weather influences
- small dimensions
- individually configurable
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- NFPA 130
- UNI CEI 11170 LR1 - LR4

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for installation in rail vehicles where permanent bending stress occurs during operation, e.g. Inter-vehicle jumper cable, bogie drop cable, etc., without torsional stress.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34645	12585829	1 x 16	11,0	257	153,6
34646	84101651	1 x 25	12,5	358	240,0
34748	84097272	1 x 35	13,5	451	336,0
34647	84095698	1 x 50	16,0	666	480,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34648	84095709	1 x 70	17,5	838	672,0
34649	84098661	1 x 95	19,5	1061	912,0
34850	84101650	1 x 120	21,5	1381	1152,0

Dimensions and specifications may be changed without prior notice.

RADOX® JUMPER 1800V OM S T

halogen-free, compact double insulated single core cable for flexible applications, screened

Technical data

- compliant with the requirements acc. to EN 50264-3-1
- **Temperature range**
  flexible -30°C to +110°C
  fixed -50°C to +110°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  flexible 10x Outer-Ø
  fixed at bending angle
  > 90° ⩽ 10 mm 3x Outer-Ø
  > 90° > 10 mm 4x Outer-Ø
  < 90° all 2x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® EI 110
- Core identification: white
- Inner sheath: RADOX® EI 109
- Inner sheath colour: black
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: textile braid
- Outer sheath: RADOX® EM 104J
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- highly flexible
- mechanically robust, high abrasion resistance
- very good resistance to: oil, fuel, acids, alkalis, ozone and weather influences
- small dimensions
- individually configurable
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- UNI CEI 11170 LR1 - LR4

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for installation in rail vehicles where permanent bending stress occurs during operation, e.g. Inter-vehicle jumper cable, bogie drop cable etc., without torsional stress.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34848	12585831	1 x 50	21,0	933	570,8
34749	12585837	1 x 70	22,5	1134	773,3
34849	84101653	1 x 95	24,5	1390	1030,0

Dimensions and specifications may be changed without prior notice.

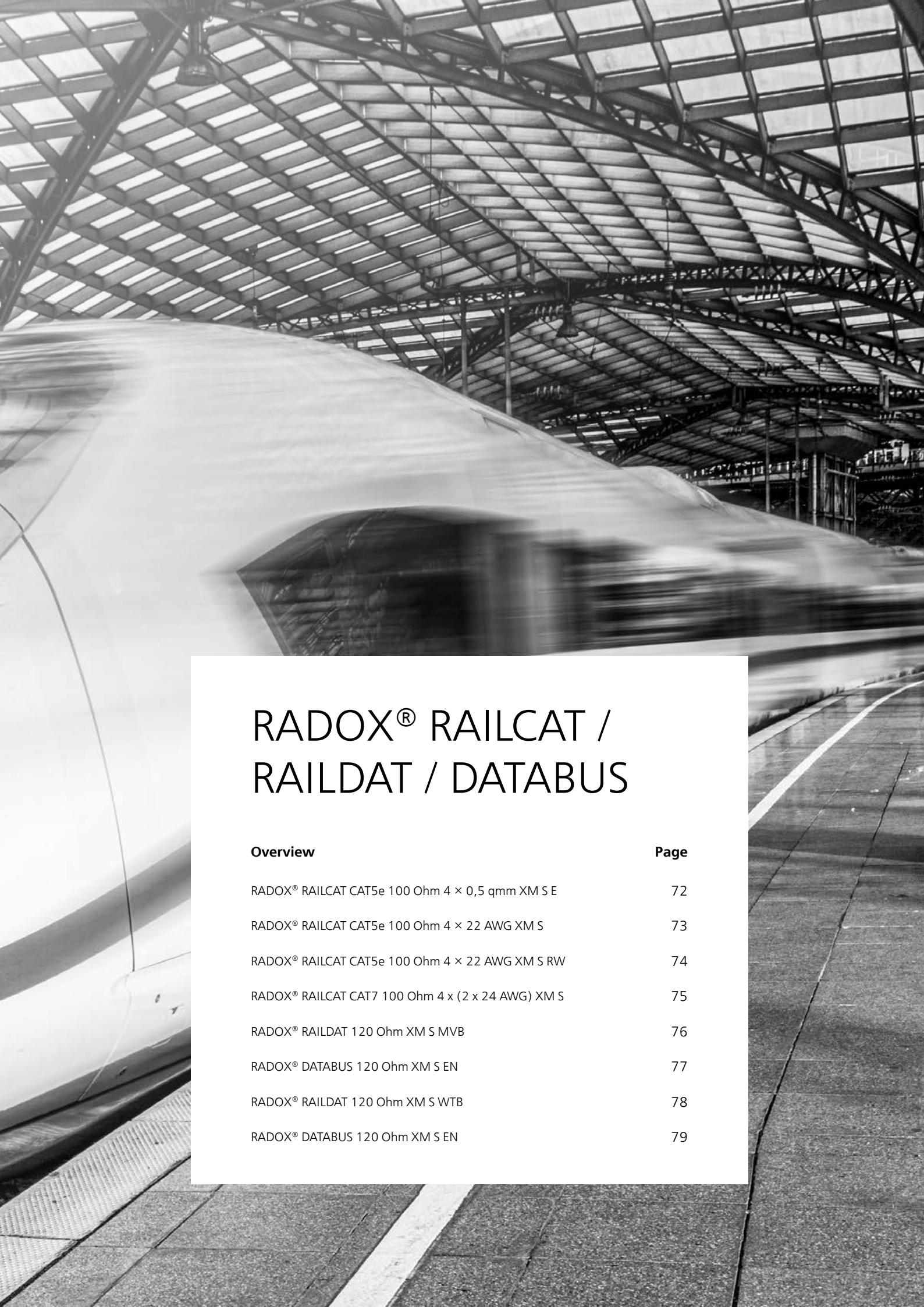
HUBER+SUHNER develops and produces a wide product range of RADOX® Databus cables. These data bus cables have been specially developed for the demanding requirements of the railway market.

The product range includes:

90 Ohm cable
- RADOX® USB 2.0

100 Ohm cable
- RADOX® 100 Ohm
- RADOX® Railcat CAT5e
- RADOX® Railcat CAT7

120 Ohm cable
- RADOX® MVB – Databus cable (multi vehicle bus)
- RADOX® UIC – Databus cable (international union of railways)
- RADOX® WTB – Databus cable (wire train bus)
- RADOX® CAN – Databus cable (controller area networks)



RADOX® RAILCAT / RAILDAT / DATABUS

RADOX® RAILCAT CAT5e 100 OHM 4x0.5 mm² XM S E

developed and tested for use in railway applications

Technical data

- compliant with the requirements acc. to EN 50288-2-2 and IEC 61156-6
- **Temperature range** -40°C to +90°C
- **Nominal voltage** U_0/U 300 V
- **Test voltage** 2000 V
- **DC resistance** @ +20°C 40.1 Ω/km
- **Unbalance resistance** @ +20°C ⩽ 1.1 Ω/km
- **Transfer impedance** f ⩽ 30 MHz 200 MΩ/m
- **Impedance** f = 100 MHz 100 ± 5 Ω
- **Mutual capacitance** core/core ⩽ 56 pF/m core/screen ⩽ 100 pF/m
- rel. **propagation velocity** 66%
- **Minimum bending radius** fixed 6x Outer-Ø

Cable structure

- Copper wire tinned
- Core insulation: RADOX® COM
- Core identification: white-blue, orange-yellow
- Cross section: 4x0,5 mm²
- EMC-Screen: plastic-coated aluminium foil (overall)
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: see table

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006071	12585489	4 x 0,5 BK	8,3	102	40,1

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006075	85068349	4 x 0,5 BU	8,3	102	40,1

Dimensions and specifications may be changed without prior notice.

RADOX® RAILCAT CAT5e 100 OHM 4x22 AWG XM S

developed and tested for use in railway applications

Technical data

- compliant with the requirements acc. to EN 50288-2-2 and IEC 61156-6
- **Temperature range** -40°C to +90°C
- **Nominal voltage** U_0/U 300 V
- **Test voltage** 2000 V
- **DC resistance** @ +20°C 54.4 Ω/km
- **Unbalance resistance** @ +20°C ⩽ 1.1 Ω/km
- **Transfer impedance** f ⩽ 30 MHz 200 MΩ/m
- **Impedance** f = 100 MHz 100 ± 5 Ω
- **Mutual capacitance** core/core ⩽ 56 pF/m core/screen ⩽ 100 pF/m
- rel. **propagation velocity** 66%
- **Minimum bending radius** flexible 10x Outer-Ø fixed 6x Outer-Ø

Cable structure

- Copper wire, silver-plated (Part no. 34860, tinned)
- Core insulation: RADOX® COM
- Core identification: white-blue, orange-yellow
- Cross section: 4x22 AWG
- EMC-Screen: plastic-coated aluminium foil (overall)
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: see table

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34762	12568935	4 x 22 AWG BK	7,3	81	28,9
11006073	85068347	4 x 22 AWG BU	7,3	81	28,9

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34860	84142178	4 x 22 AWG BU	7,3	81	25,6
11006070	12583107	4 x 2 x 22 AWG BK	8,1	173	90,8

Dimensions and specifications may be changed without prior notice.

RADOX® RAILCAT CAT5e 100 OHM 4x22 AWG XM S RW

developed and tested for use in railway applications

Technical data

- compliant with the requirements acc. to EN 50288-2-2 and IEC 61156-6
- **Temperature range** -40°C to +90°C
- **Nominal voltage** U_0/U 300 V
- **Test voltage** 2000 V
- **DC resistance** @ +20°C 54,4 Ω/km
- **Unbalance resistance** @ +20°C ⩽ 1,1 Ω/km
- **Transfer impedance** f ⩽ 30 MHz 200 MΩ/m
- **Impedance** f = 100 MHz 100 ± 5 Ω
- **Mutual capacitance** core/core ⩽ 56 pF/m core/screen ⩽ 100 pF/m
- rel. **propagation velocity** 75%
- **Minimum bending radius** fixed 6x Outer-Ø

Cable structure

- Copper wire, silver-plated (Part no. 11006072, tinned)
- Core insulation: RADOX® FOAM
- Core identification: white-blue, orange-yellow
- Cross section: 4x22 AWG
- EMC-Screen: plastic-coated aluminium foil (overall)
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: see table

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34650	12584038	4 x 22 AWG BK	6,6	70	26,4
11006074	85068348	4 x 22 AWG BU	6,6	70	26,4

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006072	85065038	4 x 22 AWG BU	6,6	70	26,9

Dimensions and specifications may be changed without prior notice.

RADOX® RAILCAT CAT7

data bus cable for Ethernet network up to 10 Gigabit

Technical data

- compliant with the requirements acc. to EN 50288-4-2 and IEC 61156-6 Cat. 7
- **Temperature range**
  flexible -25°C to +70°C
  fixed -50°C to +70°C
- **Nominal voltage**
  U_0/U 125 V
- **Test voltage**
  1000 V
- **DC resistance** @ +20°C
  95 Ω/km
- **Unbalance resistance** @ +20°C
  ⩽ 1,1 Ω/km
- **Impedance**
  f = 100 MHz 100 ± 5 Ω
- **Mutual capacitance**
  core/core ⩽ 50 pF/m
  core/screen ⩽ 80 pF/m
- rel. **propagation velocity**
  75%
- **Minimum bending radius**
  flexible 10x Outer-Ø
  fixed 4x Outer-Ø

Cable structure

- Copper wire tinned
  AWG 24 (7x32AWG)
- Core insulation: RADOX® FOAM
- 4x2x24 AWG stranded
- 2 cores stranded
- Core identification:
  Pair A: white/orange - orange
  Pair B: white/green - green
  Pair C: white/brown - brown
  Pair D: white/blue - blue
- EMC-Screen: plastic-coated aluminium foil (over the pairs)
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: blue

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- BS 6853, GM/RT 2130 Ia, Ib, II
- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35144	84124806	4 x (2 x 24 AWG)	8,1	88	38,0

Dimensions and specifications may be changed without prior notice.

RADOX® RAILDAT 120 OHM XM S MVB

symmetrical 120 Ohm data cables with very good transmission properties at high frequencies

Technical data

- compliant with the requirements acc. to IEC 61375-3-1
- **Temperature range** fixed -50°C to +90°C
- **Nominal voltage** U_0/U 300 V
- **Test voltage** 2000 V
- **DC resistance** @ +20°C 0.5 mm² < 40,1 Ω/km
- **Impedance** f = 0.75...3 MHz 120 Ω ± 12
- **Mutual capacitance** core/core ⩽ 46 pF/m
- **Capacity unbalance to the screen** f = 1.5 MHz ⩽ 1.5 pF/m
- **Wave attenuation nom.** f = 1.5 MHz 15 dB/km
- **Minimum bending radius** flexible 5x Outer-Ø fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 60228 cl.5
- Cross section: 0.5 mm²
- Core insulation: RADOX® FOAM
- Additional core: 0.5 mm²
- Core insulation: RADOX® EI 303
- Cores twisted in pairs
- EMC-Screen: plastic-coated aluminium foil (over the pairs)
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: turquoise

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130
- GOST 31565

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11022950	85114509	2 x 0,5	7,4	72	27,1
11022951	85114508	2 x 0,5 + 0,5	7,4	76	31,9
11022952	85141959	2 x 2 x 0,5	11,4	158	48,3
11022953	85141960	2 x 2 x 0,5 + 2 x 0,5	11,4	169	57,9
11022955	85109096	4 x 0,5	8,4	98	36,8
11022956	85140715	4 x 0,5 + 4 x 0,25	8,4	103	46,6

Dimensions and specifications may be changed without prior notice.

RADOX® DATABUS 120 OHM XM S EN

symmetrical 120 Ohm data cables with very good transmission properties at high frequencies

Technical data

- compliant with the requirements acc. to EN 45545-2
- **Temperature range**
  fixed -50°C to +90°C
- **Nominal voltage**
  U_0/U 300 V
- **Test voltage**
  2000 V
- **DC resistance** @ +20°C
  0.5 mm² < 40.1 Ω/km
  0.25 mm² < 90.1 Ω/km
- **Impedance**
  f = 0.75...3 MHz 120 Ω ± 12
- **Mutual capacitance**
  core/core ⩽ 46 pF/m
- **Capacity unbalance to the screen**
  f = 1.5 MHz ⩽ 1,5 pF/m
- **Wave attenuation nom.**
  f = 1.5 MHz 15 dB/km
- **Minimum bending radius**
  flexible 5x Outer-Ø
  fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, acc. to EN 60228 cl.5, 19x0.18 mm
- Cross section: 0.5 mm²
- Core insulation: RADOX® FOAM
- Additional core: 0.5 mm²
- Core insulation: RADOX® EI 303
- Cores twisted in pairs
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: turquoise

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications regarding selection and installation of the cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km	MVB	CAN	RS-485
11002035	85004176	2 x 0,5	7,8	76	23,9	X	X	X
11002032	84138531	2 x 0,5 + 0,5	7,8	80	28,7	X	X	X
11002034	85003600	2 x 2 x 0,5	11,5	175	54,1	X	X	X
11002036	85004177	2 x 2 x 0,5 + 2 x 0,5	11,5	190	71,0	X	X	-
11002033	85001338	4 x 0,5	8,2	90	38,3	X	X	X
11002037	85004187	4 x 0,5 + 4 x 0,25	8,2	102	50,3	X	-	-

Dimensions and specifications may be changed without prior notice.

RADOX® RAILDAT 120 OHM XM S WTB

symmetrical 120 Ohm data cables with very good transmission properties at high frequencies

Technical data

- compliant with the requirements acc. to IEC 61375-3-1
- **Temperature range** fixed -50°C to +90°C
- **Nominal voltage** U_0/U 300 V
- **Test voltage** 2000 V
- **DC resistance** @ +20°C 26,7 Ω/km
- **Transfer impedance** f ⩽ 20 MHz 20 MΩ/m
- **Impedance** f = 100 MHz 120 ± 12 Ω
- **Mutual capacitance** core/core ⩽ 65 pF/m
- **Minimum bending radius** flexible 5x Outer-Ø fixed 3x Outer-Ø

Cable structure

- Copper wire tinned, acc.to EN 50303-2, 19x0.23 mm
- Cross section: 0.75 mm²
- Core insulation: RADOX® FOAM
- EMC-Screen: plastic-coated aluminium foil (over the pairs)
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: turquoise

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 45545-2 HL1 - HL3
- NFPA 130
- GOST 31565

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11022957	85114510	2 x 0,75	8,5	99	40,9

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11022958	85141958	2 x 2 x 0,75	12,8	193	69,2

Dimensions and specifications may be changed without prior notice.

RADOX® DATABUS 120 OHM XM S EN

symmetrical 120 Ohm data cables with very good transmission properties at high frequencies

Technical data

- compliant with the requirements acc. to EN 45545-2
- **Temperature range** fixed -50°C to +90°C
- **Nominal voltage** U_0/U 300 V
- **Test voltage** 2000 V
- **DC resistance** @ +20°C 26.7 Ω/km
- **Unbalance resistance** @ +20°C ⩽ 1.1 Ω/km
- **Impedance** f = 0.5...2 MHz 120 Ω
- **Mutual capacitance** core/core ⩽ 46 pF/m
- **Minimum bending radius** flexible 5x Outer-Ø fixed 4x Outer-Ø

Cable structure

- Copper wire tinned, acc.to EN 50303-2, 19x0.23 mm
- Cross section: 0.75 mm²
- Core insulation: RADOX® FOAM
- EMC-Screen: braided screen of tinned copper wires (overall)
- Outer sheath: RADOX® EM 104
- Outer sheath colour: turquoise

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- UNI CEI 11170 LR1 - LR4

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

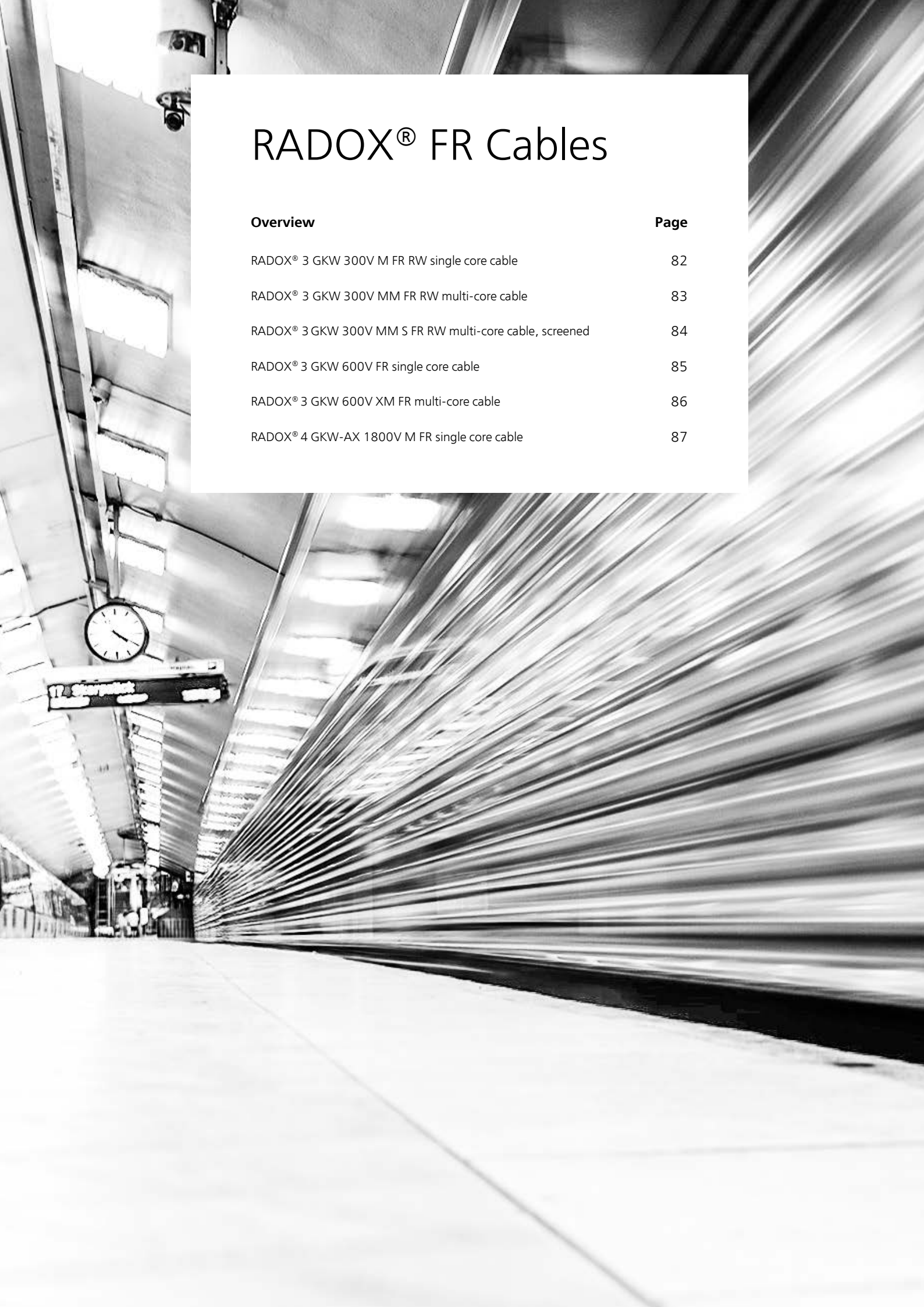
- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in standard EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km	WTB	UIC
35265	84138532	2 x 0,75	8,5	94	40,1	X	X
11004306	85001288	2 x 2 x 0,75	12,8	200	61,1	X	X

Dimensions and specifications may be changed without prior notice.

Fire-resistant

Effective and economical - use RADOX® FR cables where maximum safety is required. RADOX® FR cables guarantee insulation integrity in the event of a fire.



RADOX® FR Cables

RADOX® 3 GKW 300V M FR RW

halogen-free, compact power cable with insulation retention

Technical data

- thin-walled cores with flame barrier
- compact and weight-optimised / small bending radii
- **Temperature range**
  -50°C to +120°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexible 5x Outer-Ø
  fixed 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Flame barrier: MICA tape
- Core insulation: RADOX® EI 201
- Core identification: grey

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 50200
  Insulation in case of fire 120 min.
- EN 45545-2 HL1 - HL3

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cores are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11022989	12564622	1 x 1 GY	2,3	11	7,2
11006295	12564873	1 x 1,5 GY	2,5	13	9,6

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006292	12564623	1 x 2,5 GY	2,8	19	14,4
11006293	12564625	1 x 4 GY	3,2	28	24,0

Dimensions and specifications may be changed without prior notice.

RADOX® 3 GKW 300V MM FR RW

halogen-free, compact power cable with insulation retention

Technical data

- multi-core cable with flame barrier
- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -40°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexible
  ⩽ 10 mm 5x Outer-Ø
  > 10 mm 6x Outer-Ø
  fixed
  ⩽ 10 mm 3x Outer-Ø
  > 10 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. EN 60228 cl.5
- Flame barrier: MICA tape
- Core insulation: RADOX® EI 201
- Core identification: grey cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 50200 / 50362
  Insulation in case of fire 30 min.
- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006311	12567511	3 x 0,5	5,8	49	14,4
11006306	12564979	26 x 0,5	14,7	300	124,8
11006307	12565262	2 x 0,75	5,9	40	14,4
34453	12564977	4 x 0,75	7,0	75	28,8
34656	84116808	7 x 0,75	8,5	111	50,4
34454	12565263	8 x 0,75	9,3	130	57,6
11006310	12566547	2 x 1	6,5	61	19,2
11006302	12564629	2 x 1,5	7,1	81	28,8
11006309	12566342	3 x 1,5	7,7	99	43,2

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006313	12568269	5 G 1,5	9,5	150	72,0
11006308	12566341	6 x 1,5	10,5	170	86,4
11006303	12564630	7 G 1,5	10,3	196	100,8
11006314	12568270	12 G 1,5	13,8	320	172,8
11006304	12564631	25 G 1,5	19,6	630	360,0
11006312	12567870	37 G 1,5	25,6	882	532,8
11006315	12568271	3 G 2,5	8,5	140	72,0
11006316	12568407	12 G 2,5	15,9	460	288,0
11006305	12564632	25 G 2,5	22,2	900	600,0

Dimensions and specifications may be changed without prior notice.

RADOX® 3 GKW 300V MM S FR RW

halogen-free, compact power cable with insulation retention, screened

Technical data

- multi-core cable with flame barrier
- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 300/500 V
- **Test voltage**
  2000 V
- **Minimum bending radius**
  flexible
  ⩽ 10 mm 5x Outer-Ø
  > 10 mm 6x Outer-Ø
  fixed
  ⩽ 10 mm 3x Outer-Ø
  > 10 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Flame barrier: MICA tape
- Core insulation: RADOX® EI 201
- Core identification: grey cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- EMC-Screen: braided screen of tinned copper wires
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 50200
  Insulation in case of fire 30 min.
- EN 45545-2 HL1 - HL3
- NFPA 130
- GOST 31565

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006477	12566709	2 x 0,5	6,0	61	20,8
11006478	12566714	2 x 2 x 0,5	10,1	136	51,5
11006486	12585599	3 x 2 x 0,5	10,5	156	66,0
11006484	12585096	4 x 2 x 0,5	12,5	214	92,9
11006479	12567021	6 x 2 x 0,5	15,2	306	90,0
11006471	12566367	7 x 2 x 0,5	13,6	264	105,0
35318	12564627	2 x 0,75	6,4	65	25,5
11006480	12567873	3 x 0,75	7,5	81	38,9
34455	12564628	4 x 0,75	7,5	96	49,0
11006481	12568276	6 x 0,75	9,0	139	71,6
34456	12566544	8 x 0,75	10,2	172	90,8
11006469	12566278	12 x 0,75	12,4	252	140,5
11006487	85020563	2 x 2 x 0,75	11,1	166	66,2
11006468	12565935	5 x 2 x 0,75	14,7	300	149,3

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006470	12566366	6 x 2 x 0,75	16,9	374	125,0
34457	12567871	2 x 1	7,1	82	36,5
11006483	12584298	4 x 1	8,5	122	55,1
11006482	12583521	8 x 1	12,6	274	130,8
11006485	12585097	4 x 2 x 1	15,0	312	147,0
11006472	12566485	2 x 1,5	7,8	103	47,9
11006473	12566486	3 x 1,5	8,3	125	63,6
11006491	85068017	4 x 1,5	9,3	154	80,9
11006489	85021405	5 G 1,5	10,5	195	105,1
11006474	12566487	6 x 1,5	11,3	229	123,2
11006492	85068044	8 x 1,5	13,9	347	178,9
11006488	85021350	12 G 1,5	14,8	398	245,0
11006475	12566488	20 x 1,5	18,9	635	388,5

Dimensions and specifications may be changed without prior notice.

RADOX® 3 GKW 600V FR

halogen-free, compact power cable with insulation retention

Technical data

- core with reduced insulation wall thickness and flame barrier
- compact and weight-optimised / small bending radii
- **Temperature range**
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Flame barrier: MICA tape
- Core insulation:
  < 6 mm² RADOX® EI 109
  > 6 mm² RADOX® EI 201
- Core identification: grey

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 50200 / 50362
  Insulation in case of fire 120 min.
- EN 45545-2 HL1 - HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cores are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006297	12566936	1 x 1	3,2	20	9,6
34593	12566937	1 x 1,5	3,7	24	14,4
34594	12566914	1 x 2,5	4,1	37	24,0
34425	12560764	1 x 4	4,6	52	38,4
11006298	12566938	1 x 6	5,3	74	57,6
34426	12566939	1 x 10	6,7	120	96,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34427	12566940	1 x 16	8,2	180	153,6
11006299	12566941	1 x 25	9,7	270	240,0
11006296	12565134	1 x 35	10,8	360	336,0
11006301	12567265	1 x 50	12,8	510	480,0
11006300	12567264	1 x 150	21,3	1470	1440,0

Dimensions and specifications may be changed without prior notice.

RADOX® 3 GKW 600V XM FR

halogen-free, compact power cable with insulation retention

Technical data

- multi-core cable with flame barrier
- compact and weight-optimised / small bending radii
- **Temperature range**
  flexible -25°C to +90°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 600/1000 V
- **Test voltage**
  3500 V
- **Minimum bending radius**
  flexible 10x Outer-Ø
  fixed 6x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Flame barrier: MICA tape
- Core insulation:
  < 6 mm² RADOX® EI 109
  > 6 mm² RADOX® EI 201
- Core identification: grey cores with consecutive labeling in black digits
- Filler (optional): RADOX® 125 REC
- Wrapping: plastic belt
- Outer sheath: RADOX® EM 104
- Outer sheath colour: black

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow
- compliant with the essential fire protection standards

Tests

- EN 50200 / 50362
  Insulation in case of fire 30 min.
- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- UNI CEI 11170

Note

- G = with protective conductor GN-YE
- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006324	85066141	4 x 0,75	8,7	109	28,8
11006323	85023787	2 x 1,5	8,9	115	28,8
35200	85066152	4 x 1,5	11,1	190	57,6
11006318	12568277	4 G 1,5	11,1	190	57,6
11006319	12568278	7 G 1,5	13,1	272	100,8

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006325	85066211	8 x 1,5	16,2	401	115,2
11006322	12582893	3 G 2,5	10,7	187	72,0
11006317	12565106	3 x 4	11,9	239	115,2
11006320	12568408	4 x 4	13,7	326	153,6
11006321	12568900	4 x 50	36,5	2820	1920,0

Dimensions and specifications may be changed without prior notice.

RADOX® 4 GKW-AX 1800V M FR

halogen-free, compact power cable with insulation retention

Technical data

- core with reduced insulation wall thickness and flame barrier
- **Temperature range**
  flexible -50°C to +120°C
  fixed -50°C to +120°C
- **Nominal voltage**
  U_0/U 1800/3000 V
- **Test voltage**
  6500 V
- **Minimum bending radius**
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Flame barrier: MICA tape
- Core insulation: RADOX® EI 110
- Core identification: white
- Outer sheath: RADOX® EI 109
- Outer sheath colour: black
- Two-layer insulation made of high-tech polymers with excellent electrical properties

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow

Tests

- EN 50200 / 50362
  Insulation in case of fire 30 min.
- DIN 5510-2 fire protection level 1, 2, 3, 4
- EN 45545-2 HL1 - HL3
- UNI CEI 11170-3 LR1 - LR4

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The cables are intended for fixed installation in rail vehicles or for installation where limited alternating bending stress occurs during operation.
- Specifications concerning the selection and installation of cables are described in the standards EN 50355 and EN 50343.
- For unscreened cables, the specifications according to EN 50153 must be observed.

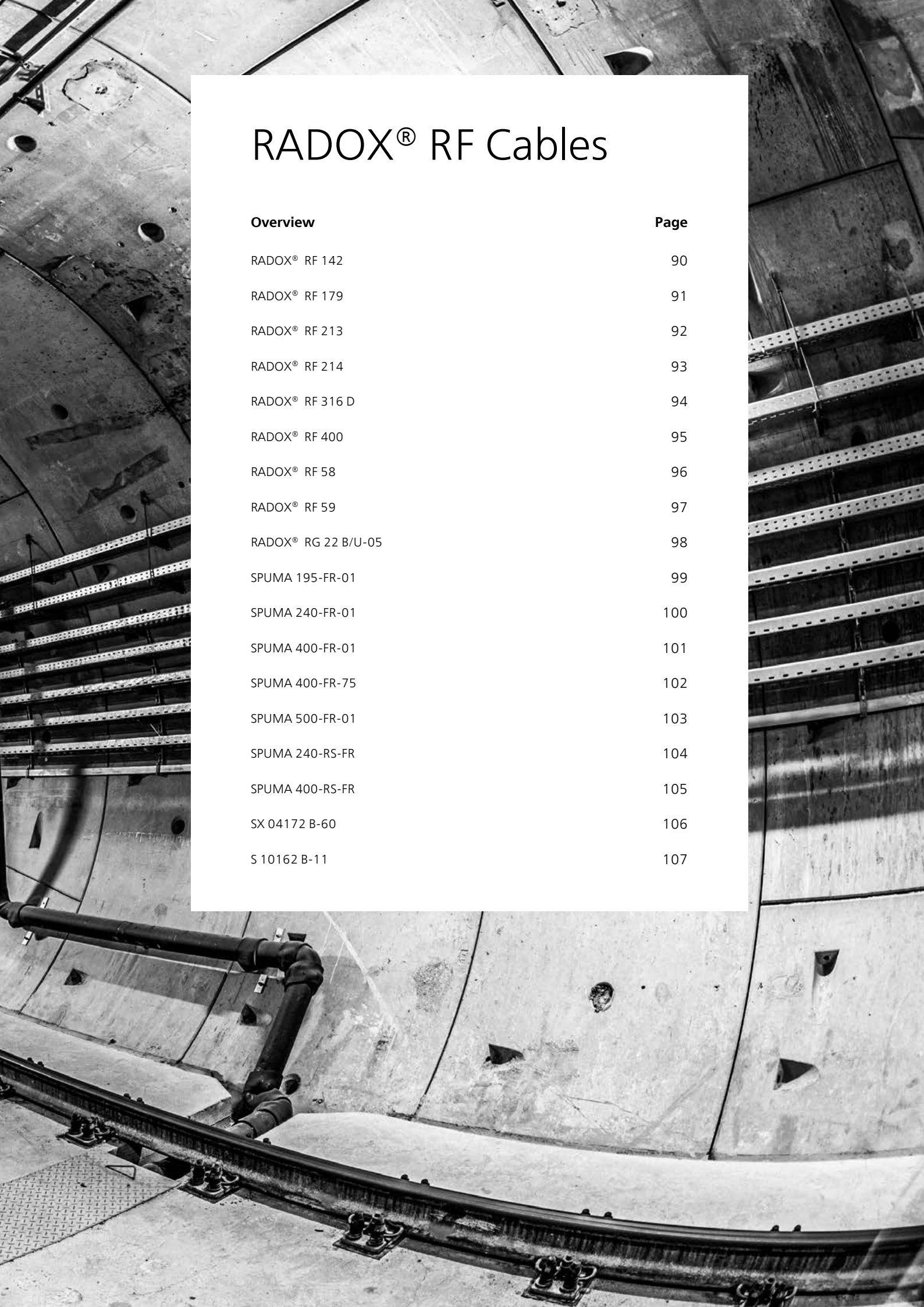
Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006773	12552226	1 x 1,5	3,8	28	14,4
11006778	12559357	1 x 2,5	4,3	40	24,0
11006776	12552871	1 x 4	5,0	57	38,4
11006779	12559772	1 x 6	5,5	78	57,6
11006774	12552228	1 x 10	6,8	127	96,0
11006777	12555388	1 x 16	8,6	194	153,6
11006780	12559773	1 x 25	10,2	286	240,0
11006781	12560644	1 x 35	11,7	402	336,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11006782	12560645	1 x 50	13,8	566	480,0
34989	12552873	1 x 70	15,8	767	672,0
11006783	12560646	1 x 95	17,6	968	912,0
11006775	12552230	1 x 120	20,2	1237	1152,0
11006784	12562955	1 x 150	22,4	1548	1440,0
11006785	12584028	1 x 185	24,3	1861	1776,0
11006786	84131740	1 x 240	27,3	2387	2304,0

Dimensions and specifications may be changed without prior notice.

RG Cables and Halogen Free Alternatives -
Halogen-Free Cables for the Railway Industry

RADOX® RF coax cables are designed specifically for rail applications and are fully compliant with European industry standards. RADOX® RF cables replace standard RG, while being smoke and flame resistant.



RADOX® RF Cables

RADOX® RF 142

50 Ohm, 8 GHz, 105°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  8 GHz
- **Operating voltage**
  ⩽ 2.5 kVrms (at sea level)
- **Test voltage**
  5 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 75 dB (up to 5 GHz)
- **Mutual capacitance**
  94.5 pF/m
- rel. **propagation velocity**
  70.9 %
- **Signal delay**
  4.7 ns/m
- **Minimum bending radius**
  flexible 50 mm (for ⩽ 3000 bendings)
  fixed 30 mm

Cable structure

- Inner conductor: copper, silver-plated
- Dielectric: SPEX (Crosslink Foam PE)
- Outer conductor:
  1. copper braid, silver-plated 97%
  2. copper braid, silver-plated 95%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, EN 50305, 9.1.2
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022979	85023684	1 x 0.95 mm	5,3	57

Dimensions and specifications may be changed without prior notice.

RADOX® RF 179

75 Ohm, 3 GHz, 105°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  75 Ω +/- 3
- **Operating frequency**
  3 GHz
- **Operating voltage**
  ⩽ 1 kVrms (at sea level)
- **Test voltage**
  2 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 40 dB (up to 1 GHz)
- **Mutual capacitance**
  63 pF/m
- rel. **propagation velocity**
  69.7 %
- **Signal delay**
  4.78 ns/m
- **Minimum bending radius**
  flexible 25 mm (for ⩽ 50 bendings)
  fixed 5 mm

Cable structure

- Inner conductor:
  steel copper, 7-wires, silver-plated
- Dielectric: SPEX (Crosslink Foam PE)
- Outer conductor:
  copper braid, silver-plated94%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, EN 50305, 9.1.2, IEC 60332-3-24, UL 1581 § 1100
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022990	85023705	1 x 0,305 mm	2,8	13

Dimensions and specifications may be changed without prior notice.

RADOX® RF 213

50 Ohm, 2 GHz, 105°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  2 GHz
- **Operating voltage**
  ⩽ 5 kVrms (at sea level)
- **Test voltage**
  10 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 41 dB (up to 2 GHz)
- **Mutual capacitance**
  101 pF/m
- rel. **propagation velocity**
  66 %
- **Signal delay**
  5.03 ns/m
- **Minimum bending radius**
  flexible 100 mm (for ⩽ 50 bendings)
  fixed 50 mm

Cable structure

- Inner conductor: copper, 7-wires
- Dielectric: PEX (Polyethylene cross-linked)
- Outer conductor:
  copper braid, silver-plated 95%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022991	85023730	1 x 2.25 mm	10,6	168

Dimensions and specifications may be changed without prior notice.

RADOX® RF 214

50 Ohm, 6 GHz, 105°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  6 GHz
- **Operating voltage**
  ⩽ 5 kVrms (at sea level)
- **Test voltage**
  10 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 81 dB (up to 6 GHz)
- **Mutual capacitance**
  101,4 pF/m
- rel. **propagation velocity**
  66 %
- **Signal delay**
  5.03 ns/m
- **Minimum bending radius**
  flexible 110 mm (for ⩽ 50 bendings)
  fixed 50 mm

Cable structure

- Inner conductor:
  copper, 7-wires, silver-plated
- Dielectric: PEX (Polyethylene cross-linked)
- Outer conductor:
  1. copper braid, silver-plated 93%
  2. copper braid, silver-plated 95%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022992	85023731	1 x 2.25 mm	11,1	203

Dimensions and specifications may be changed without prior notice.

RADOX® RF 316 D

50 Ohm, 8 GHz, 105°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  8 GHz
- **Operating voltage**
  ⩽ 1.5 kVrms (at sea level)
- **Test voltage**
  3 kVrms (50 Hz/1 min)
- **Voltage Rating UL**
  300 V
- **Screening efficiency**
  ⩾ 70 dB (up to 6 GHz)
- **Mutual capacitance**
  94.5 pF/m
- rel. **propagation velocity**
  70.1 %
- **Signal delay**
  4.72 ns/m
- **Minimum bending radius**
  flexible 30 mm (for ⩽ 50 bendings)
  fixed 5 mm

Cable structure

- Inner conductor:
  steel copper, 7-wires, silver-plated
- Dielectric: SPEX (Crosslink Foam PE)
- Outer conductor:
  1. copper braid, silver-plated 96%
  2. copper braid, silver-plated 90%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, EN 50305, 9.1.2, IEC 60332-3-24, UL 1581 § 1100, CFR/JAR/CS Part 25 Appendix F
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022985	85023719	1 x 0.54 mm	3,2	20

Dimensions and specifications may be changed without prior notice.

RADOX® RF 400

50 Ohm, 6 GHz, 105°C, RADOX® sheath, flame retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  6 GHz
- **Operating voltage**
  ⩽ 2.5 kVrms (at sea level)
- **Test voltage**
  5 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 70 dB (up to 6 GHz)
- **Mutual capacitance**
  94.5 pF/m
- rel. **propagation velocity**
  70.3 %
- **Signal delay**
  4.74 ns/m
- **Minimum bending radius**
  flexible 40 mm (for ⩽ 30000 bendings)
  fixed 10 mm

Cable structure

- Inner conductor:
  copper, 19-wires, silver-plated
- Dielectric: SPEX (Crosslink Foam PE)
- Outer conductor:
  1. copper braid, silver-plated 96%
  2. copper braid, silver-plated 94%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, EN 50305, 9.1.2, IEC 60332-3-24
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022980	85023720	1 x 1 mm	5,3	56

Dimensions and specifications may be changed without prior notice.

RADOX® RF 58

50 Ohm, 3 GHz, 105°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  3 GHz
- **Operating voltage**
  ⩽ 2.5 kVrms (at sea level)
- **Test voltage**
  5 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 40 dB (up to 2 GHz)
- **Mutual capacitance**
  101 pF/m
- rel. **propagation velocity**
  66 %
- **Signal delay**
  5.05 ns/m
- **Minimum bending radius**
  flexible 50 mm (for ⩽ 50 bendings)
  fixed 25 mm

Cable structure

- Inner conductor: copper, 19-wires, tinned
- Dielectric: PEX (Polyethylene cross-linked)
- Outer conductor: copper braid, tinned 96%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, EN 50305, 9.1.2
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022981	85023726	1 x 0.9 mm	5,1	41

Dimensions and specifications may be changed without prior notice.

RADOX® RF 59

75 Ohm, 1 GHz, 105°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +105°C
- **Impedance**
  75 Ω +/- 3
- **Operating frequency**
  1 GHz
- **Operating voltage**
  ⩽ 3 kVrms (at sea level)
- **Test voltage**
  5 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 40 dB (up to 1 GHz)
- **Mutual capacitance**
  68 pF/m
- rel. **propagation velocity**
  66.1 %
- **Signal delay**
  5.05 ns/m
- **Minimum bending radius**
  fixed 35 mm

Cable structure

- Inner conductor: copper, 7-wires, tinned
- Dielectric: PEX (Polyethylene cross-linked)
- Outer conductor: copper braid, tinned 94%
- Outer sheath: RADOX® EM104
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022982	85023729	1 x 0.66 mm	6,2	55

Dimensions and specifications may be changed without prior notice.

RADOX® RG 22 B/U-05

95 Ohm, 0.2 GHz, 85°C, RADOX® sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  95 Ω +/- 5
- **Operating frequency**
  max. 0.2 GHz
- **Operating voltage**
  max. 1 kVrms (at sea level)
- **Test voltage**
  2 kVrms (50 Hz/1 min)
- **Mutual capacitance**
  53 pF/m
- rel. **propagation velocity**
  66.5 %
- **Minimum bending radius**
  flexible 110 mm (for max. 50 bendings)
  fixed 55 mm

Cable structure

- Inner conductor:
  1. copper, 7-wires, bare
     Dielectric: PE (Polyethylene)
  2. copper, 7-wires, tinned
     Dielectric: PE (Polyethylene)
- Dielectric: PE (Polyethylene)
- Outer conductor:
  1. copper braid, tinned 94%
  2. copper braid, tinned 95%
- Outer sheath: RADOX® EM104
- Outer sheath colour: red (RAL 3027)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards

Tests

- Flame spread acc. to IEC 60332-1, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022993	84016404	2 x 1.2 mm	10,7	176

Dimensions and specifications may be changed without prior notice.

SPUMA 195-FR-01

50 Ohm, 8 GHz, 85°C, LSFH sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  8 GHz
- **Operating voltage**
  ⩽ 0.5 kVrms (at sea level)
- **Test voltage**
  1 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 6 GHz)
- **Mutual capacitance**
  90.8 pF/m
- rel. **propagation velocity**
  76.1 %
- **Signal delay**
  4.54 ns/m
- **Minimum bending radius**
  flexible 40 mm
  fixed 10 mm

Cable structure

- Inner conductor: copper, bare
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 92%
- Outer sheath: LSFH (mod. Polyethylene)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to EN 60332-1-2, EN 50305, 9.1.2
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130
- CPR-class: E_{ca}

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The SPUMA cable offers easier handling and installation due to its flexibility.
- Other advantages are extremely low loss with halogen-free materials.
- Shielding and VSWR are optimised for up to 6 GHz.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.
- Use in rail vehicles, defence technology, wireless infrastructure.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022994	85021562	1 x 0.94 mm	5,0	39

Dimensions and specifications may be changed without prior notice.

SPUMA 240-FR-01

50 Ohm, 6 GHz, 85°C, LSFH sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  6 GHz
- **Operating voltage**
  ⩽ 0.9 kVrms (at sea level)
- **Test voltage**
  1.5 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 6 GHz)
- **Mutual capacitance**
  78.9 pF/m
- rel. **propagation velocity**
  82.6 %
- **Signal delay**
  4.05 ns/m
- **Minimum bending radius**
  flexible 53 mm
  fixed 14 mm

Cable structure

- Inner conductor: copper, bare
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 94%
- Outer sheath: LSFH (mod. Polyethylene)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to IEC 60332-1, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130
- CPR-class: C_{ca} s1 d0 a1
- Cold bend test: MIL-C-17 § 4.8.19
- UV-resistant acc. to DIN EN ISO 4892-2A

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The SPUMA cable offers easier handling and installation due to its flexibility.
- Other advantages are extremely low loss with halogen-free materials.
- Shielding and VSWR are optimised for up to 6 GHz.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.
- Use in rail vehicles, defence technology, wireless infrastructure.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11021142	85021563	1 x 1.42 mm	6,2	61

Dimensions and specifications may be changed without prior notice.

SPUMA 400-FR-01

50 Ohm, 8 GHz, 85°C, LSFH sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  8 GHz
- **Operating voltage**
  ⩽ 1.6 kVrms (at sea level)
- **Test voltage**
  3 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 6 GHz)
- **Mutual capacitance**
  78 pF/m
- rel. **propagation velocity**
  85 %
- **Signal delay**
  3.9 ns/m
- **Minimum bending radius**
  flexible 100 mm
  fixed 25 mm

Cable structure

- Inner conductor: aluminium copper
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 78%
- Outer sheath: LSFH (mod. Polyethylene)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to UL 1581 § 1100, UL 1581 § 1080 (VW-1), EN 60332-1-2, EN 50266-2-5, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130
- CPR-class: C_{ca} s2 d2 a1
- Cold bend test: MIL-C-17 § 4.8.19
- UV-resistant acc. to DIN EN ISO 4892-2A

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The SPUMA cable offers easier handling and installation due to its flexibility.
- Other advantages are extremely low loss with halogen-free materials.
- Shielding and VSWR are optimised for up to 6 GHz.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.
- Use in rail vehicles, defence technology, wireless infrastructure.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
34997	84132035	1 x 2.74 mm	10,3	115

Dimensions and specifications may be changed without prior notice.

SPUMA 400-FR-75

75 Ohm, 3 GHz, 85°C, LSFH sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  75 Ω +/- 3
- **Operating frequency**
  3 GHz
- **Operating voltage**
  ⩽ 1.6 kVrms (at sea level)
- **Test voltage**
  3 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 3 GHz)
- **Mutual capacitance**
  53 pF/m
- rel. **propagation velocity**
  84 %
- **Signal delay**
  3.9 ns/m
- **Minimum bending radius**
  flexible 100 mm
  fixed 25 mm

Cable structure

- Inner conductor: copper, bare
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 78%
- Outer sheath: LSFH (mod. Polyethylene)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130
- UV-resistant acc. to DIN EN ISO 4892-2A

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The SPUMA cable offers easier handling and installation due to its flexibility.
- Other advantages are extremely low loss with halogen-free materials.
- Shielding and VSWR are optimised for up to 6 GHz.
- Use in rail vehicles, defence technology, wireless infrastructure.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022996	85022187	1 x 1.65 mm	10,3	120

Dimensions and specifications may be changed without prior notice.

SPUMA 500-FR-01

50 Ohm, 8 GHz, 85°C, LSFH sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  8 GHz
- **Operating voltage**
  ⩽ 1.2 kVrms (at sea level)
- **Test voltage**
  2 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 6 GHz)
- **Mutual capacitance**
  77.4 pF/m
- rel. **propagation velocity**
  86 %
- **Signal delay**
  3.87 ns/m
- **Minimum bending radius**
  flexible 130 mm
  fixed 3 mm

Cable structure

- Inner conductor: aluminium copper
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 90%
- Outer sheath: LSFH (mod. Polyethylene)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-24
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL3
- NFPA 130
- CPR-class: E_{ca}
- UV-resistant acc. to DIN EN ISO 4892-2A

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The SPUMA cable offers easier handling and installation due to its flexibility.
- Other advantages are extremely low loss with halogen-free materials.
- Shielding and VSWR are optimised for up to 6 GHz.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.
- Use in rail vehicles, defence technology, wireless infrastructure.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11009206	85021564	1 x 3.58 mm	12,8	178

Dimensions and specifications may be changed without prior notice.

SPUMA 240-RS-FR

50 Ohm, 6 GHz, 85°C, TPU sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  6 GHz
- **Operating voltage**
  ⩽ 0.9 kVrms (at sea level)
- **Test voltage**
  1.5 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 6 GHz)
- **Mutual capacitance**
  81 pF/m
- rel. **propagation velocity**
  85 %
- **Signal delay**
  4.05 ns/m
- **Minimum bending radius**
  flexible 53 mm
  fixed 14 mm

Cable structure

- Inner conductor: copper, low-loss
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 94%
- Outer sheath: TPU (Urethane TPE)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-25
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL2
- NFPA 130
- Abrasion test acc. to EN 50305, 5.2

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The SPUMA cable offers easier handling and installation due to its flexibility.
- Other advantages are extremely low loss with halogen-free materials.
- Shielding and VSWR are optimised for up to 6 GHz.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.
- Use in rail vehicles, defence technology, wireless infrastructure.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022995	85089188	1 x 1.42 mm	6,2	54

Dimensions and specifications may be changed without prior notice.

SPUMA 400-RS-FR

50 Ohm, 6 GHz, 85°C, TPU sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  6 GHz
- **Operating voltage**
  ⩽ 1.6 kVrms (at sea level)
- **Test voltage**
  3 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 6 GHz)
- **Mutual capacitance**
  78 pF/m
- rel. **propagation velocity**
  85 %
- **Signal delay**
  3.9 ns/m
- **Minimum bending radius**
  flexible 100 mm
  fixed 25 mm

Cable structure

- Inner conductor: copper, low-loss
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 86%
- Outer sheath: TPU (Urethane TPE)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-25
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- EN 45545-2 HL2
- NFPA 130
- Abrasion test acc. to EN 50305, 5.2

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- The SPUMA cable offers easier handling and installation due to its flexibility.
- Other advantages are extremely low loss with halogen-free materials.
- Shielding and VSWR are optimised for up to 6 GHz.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.
- Use in rail vehicles, defence technology, wireless infrastructure.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022983	85089191	1 x 2.74 mm	10,3	142

Dimensions and specifications may be changed without prior notice.

SX 04172 B-60

50 Ohm, 8 GHz, 105°C, RADOX® sheath, UL AWM style 1354, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  -40°C to +105°C
  UL +80°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  8 GHz
- **Operating voltage**
  ⩽ 0.7 kVrms (at sea level)
- **Test voltage**
  1.4 kVrms (50 Hz/1 min)
- **Voltage Rating UL**
  30 V
- **Screening efficiency**
  ⩾ 80 dB (up to 2.2 GHz)
- **Mutual capacitance**
  80.3 pF/m
- rel. **propagation velocity**
  83 %
- **Signal delay**
  4.01 ns/m
- **Minimum bending radius**
  flexible 90 mm
  fixed 25 mm

Cable structure

- Inner conductor: copper, silvered
- Dielectric: SPEX (Crosslink Foam PE)
- Outer conductor:
  1. aluminium / PES foil 100%
  2. copper braid, tinned 86%
- Outer sheath: RADOX®
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to EN 60332-1-2, IEC 60332-3-22, EN 50305, 9.1.2, EN 50266-2-2, NF C 32-070 C2, NF C 32-070 C1
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- Toxicity of combustion gases acc. to NF X 70-100
- EN 45545-2 HL3
- NFPA 130

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
11022984	84026748	1 x 1.4 mm	5,5	47

Dimensions and specifications may be changed without prior notice.

S 10162 B-11

50 Ohm, 8 GHz, 85°C, LSFH sheath, flame-retardant, railway qualified

Technical data

- compliant with the requirements acc. to EN 45545 HL3
- **Temperature range**
  flexible -20°C to +60°C
  fixed -40°C to +85°C
- **Impedance**
  50 Ω +/- 2
- **Operating frequency**
  8 GHz
- **Operating voltage**
  ⩽ 1.7 kVrms (at sea level)
- **Test voltage**
  3.4 kVrms (50 Hz/1 min)
- **Screening efficiency**
  ⩾ 90 dB (up to 7.5 GHz)
- **Mutual capacitance**
  77 pF/m
- rel. **propagation velocity**
  87 %
- **Signal delay**
  3.85 ns/m
- **Minimum bending radius**
  flexible 200 mm
  fixed 100 mm

Cable structure

- Inner conductor: aluminium copper
- Dielectric: SPE (Foam PE)
- Outer conductor:
  1. copper foil 100%
  2. copper braid, tinned 80%
- Outer sheath: LSFH (mod. Polyethylene)
- Outer sheath colour: black (RAL 9005)

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- compliant with the essential fire protection standards
- excellent insertion damping
- high flexibility due to rotary cold forming technology

Tests

- Flame spread acc. to IEC 60332-1, EN 60332-1-2, EN 50266-2-4, IEC 60332-3-24, BS 4066-3, NF C 32-070 C2
- Halogen-free acc. to IEC 60754
- Smoke density acc. to EN 61034-2
- Toxicity of combustion gases acc. to BS 6853 Annex B
- EN 45545-2 HL3
- NFPA 130
- UV-resistant acc. to DIN EN ISO 4892-2A

Note

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Application

- RADOX® RF coaxial cables are specifically designed for railway applications and fully comply with European industry standards.
- Standard RG types can be replaced by RADOX® HF cables, which are low-smoke and flame-retardant.
- Applicable at frequencies up to 6 GHz, in special cases up to 8 GHz.

Part no.	Part no. H&S	No. cores x Diameter mm	Outer Ø app. mm	Weight app. kg / km
34770	23002145	1 x 3.8 mm	12,9	150

Dimensions and specifications may be changed without prior notice.


01A
217
01W224AB

RADOX® for Industrial Application

RADOX® RXL 125

halogen-free single core cable, finely stranded

Technical data

- single core cable with high abrasion resistance and thermal pressure resistance
- **Temperature range**
  -40°C to +125°C
- **Nominal voltage**
  ⩽ 0,75 mm² U_0/U 300/500 V
  ⩾ 1 mm² U_0/U 600/1000 V
- **Test voltage**
  ⩽ 0,75 mm² 2000 V
  ⩾ 1 mm² 3500 V
- **Minimum bending radius**
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® 125
- Core identification: see table

Notes

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request
- multi-core cables on request

Properties

- halogen-free and flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow

Tests

- EN 45545-2 HL1 - HL3
- halogen-free mixture complies with EN 50363
- Corrosiveness of combustion gases pH ⩾ 4.3, □ ⩽ 10 µS/mm EN 60754- 2
- Hydrohalic acid content HCl + HBr ⩽ 0.5 % EN 60754- 1
- Fluorine content HF ⩽ 0.1 % EN 60684-2, # 45.2
- CPR-class: E_{ca} up to 6 mm², for all other cross-sections: $B2_{ca}$
- DNV-GL No.Approval TAE00003GH

Application

- Protected, fixed installation inside electrical equipment, especially suitable for connecting motor windings, control panels, magnets and transformers.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35152	12519496	1 x 0,25 BK	1,3	4	2,4
11005752	12519497	1 x 0,25 BN	1,3	4	2,4
11005760	12521082	1 x 0,25 BU	1,3	4	2,4
11005759	12521081	1 x 0,25 OG	1,3	4	2,4
11005754	12521066	1 x 0,25 GN	1,3	4	2,4
11005761	12521088	1 x 0,25 GN-YE	1,3	4	2,4
11005751	12518105	1 x 0,25 GY	1,3	4	2,4
35151	12521067	1 x 0,25 RD	1,3	4	2,4
11005750	12516141	1 x 0,25 VT	1,3	4	2,4
35153	12516294	1 x 0,25 WH	1,3	4	2,4
11005753	12519498	1 x 0,25 YE	1,3	4	2,4
11005799	12536857	1 x 0,34 BK	1,5	5	3,3
11005895	85030117	1 x 0,34 BN	1,5	5	3,3
11005800	12537922	1 x 0,34 BU	1,5	5	3,3
11005898	85030120	1 x 0,34 GN	1,5	5	3,3
11005900	85030122	1 x 0,34 GY	1,5	5	3,3
11005896	85030118	1 x 0,34 OG	1,5	5	3,3
11005899	85030121	1 x 0,34 RD	1,5	5	3,3
11005804	12558211	1 x 0,34 WH	1,5	5	3,3
11005897	85030119	1 x 0,34 YE	1,5	5	3,3
11005747	12516088	1 x 0,5 BK	2,0	7	4,8
11005743	12515803	1 x 0,5 BN	2,0	7	4,8
11005757	12521075	1 x 0,5 BU	2,0	7	4,8
11005745	12516086	1 x 0,5 GN	2,0	7	4,8
11005749	12516091	1 x 0,5 GN-YE	2,0	7	4,8
11005746	12516087	1 x 0,5 GY	2,0	7	4,8
11005756	12521074	1 x 0,5 OG	2,0	7	4,8
11005748	12516089	1 x 0,5 RD	2,0	7	4,8
11005755	12521069	1 x 0,5 VT	2,0	7	4,8
11005744	12516080	1 x 0,5 WH	2,0	7	4,8

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005758	12521076	1 x 0,5 YE	2,0	7	4,8
11005767	12530436	1 x 0,75 BK	2,2	10	7,2
11005764	12530432	1 x 0,75 BN	2,2	10	7,2
11005765	12530433	1 x 0,75 BU	2,2	10	7,2
11005741	12515492	1 x 0,75 GN	2,2	10	7,2
11005766	12530434	1 x 0,75 GN-YE	2,2	10	7,2
11005742	12515493	1 x 0,75 GY	2,2	10	7,2
11005803	12552231	1 x 0,75 OG	2,2	10	7,2
11005739	12515490	1 x 0,75 RD	2,2	10	7,2
11005787	12536734	1 x 0,75 VT	2,2	10	7,2
11005785	12535952	1 x 0,75 WH	2,2	10	7,2
11005740	12515491	1 x 0,75 YE	2,2	10	7,2
11005768	12534452	1 x 1 BK	2,6	14	9,6
11005731	12012050	1 x 1 BN	2,6	14	9,6
11005732	12012060	1 x 1 BU	2,6	14	9,6
11005788	12536735	1 x 1 GN	2,6	14	9,6
11005733	12012070	1 x 1 GN-YE	2,6	14	9,6
11005738	12505624	1 x 1 GY	2,6	14	9,6
11005737	12505622	1 x 1 OG	2,6	14	9,6
11005734	12012080	1 x 1 RD	2,6	14	9,6
11005736	12505621	1 x 1 VT	2,6	14	9,6
35272	12012040	1 x 1 WH	2,6	14	9,6
11005735	12012090	1 x 1 YE	2,6	14	9,6
11005781	12535840	1 x 1,5 BK	2,9	18	14,4
11005771	12534455	1 x 1,5 BN	2,9	18	14,4
11005769	12534453	1 x 1,5 BU	2,9	18	14,4
11005791	12536738	1 x 1,5 GN	2,9	18	14,4
11005790	12536737	1 x 1,5 GN-YE	2,9	18	14,4
11005770	12534454	1 x 1,5 GY	2,9	18	14,4
11005801	12538161	1 x 1,5 OG	2,9	18	14,4

Continuation ▸

RADOX® RXL 125

halogen-free single core cable, finely stranded

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005779	12535703	1 x 1,5 RD	2,9	18	14,4
11005792	12536739	1 x 1,5 VT	2,9	18	14,4
11005762	12528958	1 x 1,5 WH	2,9	18	14,4
11005789	12536736	1 x 1,5 YE	2,9	18	14,4
11005772	12534456	1 x 2,5 BK	3,4	30	24,0
11005778	12535684	1 x 2,5 BN	3,4	30	24,0
11005776	12535682	1 x 2,5 BU	3,4	30	24,0
11005793	12536740	1 x 2,5 GN	3,4	30	24,0
11005777	12535683	1 x 2,5 GN-YE	3,4	30	24,0
11005782	12535843	1 x 2,5 GY	3,4	30	24,0
11005786	12536516	1 x 2,5 OG	3,4	30	24,0
11005774	12535521	1 x 2,5 RD	3,4	30	24,0
11005802	12538836	1 x 2,5 VT	3,4	30	24,0
11005775	12535681	1 x 2,5 WH	3,4	30	24,0
11005780	12535714	1 x 2,5 YE	3,4	30	24,0
11005773	12534457	1 x 4 BK	4,0	46	38,4
11005794	12536741	1 x 4 BN	4,0	46	38,4
11005795	12536742	1 x 4 BU	4,0	46	38,4
11005784	12535912	1 x 4 GN	4,0	46	38,4
11005763	12528959	1 x 4 GN-YE	4,0	46	38,4
11005798	12536745	1 x 4 GY	4,0	46	38,4
11005869	84093193	1 x 4 OG	4,0	46	38,4
11005796	12536743	1 x 4 RD	4,0	46	38,4
11005783	12535911	1 x 4 WH	4,0	46	38,4
11005797	12536744	1 x 4 YE	4,0	46	38,4
11005810	12560235	1 x 6 BK	5,0	66	57,6
11005806	12560231	1 x 6 BN	5,0	66	57,6
11005805	12560230	1 x 6 BU	5,0	66	57,6
11005808	12560233	1 x 6 GN-YE	5,0	66	57,6
11005868	12586519	1 x 6 GY	5,0	66	57,6
11005809	12560234	1 x 6 RD	5,0	66	57,6
11005879	84148202	1 x 6 VT	5,0	66	57,6
11005811	12560236	1 x 6 WH	5,0	66	57,6
11005807	12560232	1 x 6 YE	5,0	66	57,6
11005816	12560242	1 x 10 BK	6,2	111	96,0
11005849	12582444	1 x 10 BN	6,2	111	96,0
11005812	12560238	1 x 10 BU	6,2	111	96,0
11005814	12560240	1 x 10 GN-YE	6,2	111	96,0
11005815	12560241	1 x 10 RD	6,2	111	96,0
11005817	12560243	1 x 10 WH	6,2	111	96,0
11005813	12560239	1 x 10 YE	6,2	111	96,0
11005823	12560249	1 x 16 BK	7,4	166	153,6
11005867	12584353	1 x 16 BN	7,4	166	153,6
11005818	12560244	1 x 16 BU	7,4	166	153,6
11005820	12560246	1 x 16 GN-YE	7,4	166	153,6
11005821	12560247	1 x 16 GY	7,4	166	153,6
11005822	12560248	1 x 16 RD	7,4	166	153,6
11005824	12560250	1 x 16 WH	7,4	166	153,6
11005819	12560245	1 x 16 YE	7,4	166	153,6
11005827	12560254	1 x 25 BK	8,9	250	240,0
11005846	12581282	1 x 25 GN	8,9	250	240,0
11005825	12560252	1 x 25 GN-YE	8,9	250	240,0
11005906	85077070	1 x 25 GY	8,9	250	240,0
11005878	84142287	1 x 25 OG	8,9	250	240,0
11005826	12560253	1 x 25 RD	8,9	250	240,0
11005829	12560256	1 x 35 BK	10,3	349	336,0
11005851	12582833	1 x 35 GN	10,3	349	336,0
11005828	12560255	1 x 35 GN-YE	10,3	349	336,0
11005905	85077062	1 x 35 GY	10,3	349	336,0
11005909	85082446	1 x 35 RD	10,3	349	336,0
11005832	12560260	1 x 50 BK	12,1	499	480,0
11005830	12560258	1 x 50 GN-YE	12,1	499	480,0
11005831	12560259	1 x 50 RD	12,1	499	480,0
11005833	12560261	1 x 50 WH	12,1	499	480,0
11005836	12560265	1 x 70 BK	14,4	708	672,0
11005834	12560263	1 x 70 GN-YE	14,4	708	672,0
11005904	85076956	1 x 70 GY	14,4	708	672,0
11005835	12560264	1 x 70 RD	14,4	708	672,0
11005838	12560269	1 x 95 BK	16,0	888	912,0
11005837	12560268	1 x 95 GN-YE	16,0	888	912,0
11005888	85028249	1 x 95 OG	16,0	888	912,0
11005840	12560273	1 x 120 BK	18,6	1158	1152,0
11005839	12560272	1 x 120 GN-YE	18,6	1158	1152,0
11005841	12560275	1 x 150 BK	20,5	1445	1440,0
11005842	12560276	1 x 185 BK	22,2	1723	1776,0
11005876	84124746	1 x 185 GN-YE	22,2	1723	1776,0
11005843	12560277	1 x 240 BK	25,4	2246	2304,0

Dimensions and specifications may be changed without prior notice.

RADOX® RXL 155

electron beam cross-linked single core, finely stranded

Technical data

- single core cable with high abrasion resistance and thermal pressure resistance
- **Temperature range**
  fixed -55°C to +155°C
- **Nominal voltage**
  < 0.5 mm² U_0/U 450/750 V
  > 0.5 mm² U_0/U 600/1000 V
- **Test voltage**
  < 0.5 mm² 2500 V
  > 0.5 mm² 3500 V
- **Minimum bending radius**
  fixed
  ⩽ 12 mm 3x Outer-Ø
  > 12 mm 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® 155 extruded electron beam cross-linked polyolefin
- Core identification: see table

Notes

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request
- multi-core cables on request

Properties

- flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- resistant to impregnating resins and varnishes
- electron beam cross-linked RADOX® insulation does not melt or flow

Tests

- Heat class F 155°C acc. to EN 60085

Application

- Protected, fixed installation inside electrical equipment, especially suitable for connecting motor windings, control panels, magnets and transformers.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005566	12420682	1 x 0,25 BK	1,5	4	2,4
11005573	12420745	1 x 0,25 BN	1,5	4	2,4
11005571	12420743	1 x 0,25 BU	1,5	4	2,4
11005567	12420688	1 x 0,25 GN	1,5	4	2,4
11005585	12516486	1 x 0,25 GN-YE	1,5	4	2,4
11005578	12509654	1 x 0,25 GY	1,5	4	2,4
11005576	12508402	1 x 0,25 OG	1,5	4	2,4
11005678	12582089	1 x 0,25 PK	1,5	4	2,4
11005575	12508401	1 x 0,25 RD	1,5	4	2,4
11005572	12420744	1 x 0,25 VT	1,5	4	2,4
11005579	12510763	1 x 0,25 WH	1,5	4	2,4
11005577	12508403	1 x 0,25 YE	1,5	4	2,4
11005583	12516401	1 x 0,34 BK	1,6	5	3,3
11005602	12543275	1 x 0,34 BN	1,6	5	3,3
11005584	12516402	1 x 0,34 BU	1,6	5	3,3
11005601	12543187	1 x 0,34 GN	1,6	5	3,3
11005705	12584071	1 x 0,34 GY	1,6	5	3,3
11005707	12584294	1 x 0,34 OG	1,6	5	3,3
11005582	12516400	1 x 0,34 RD	1,6	5	3,3
11005730	85089030	1 x 0,34 VT	1,6	5	3,3
11005588	12522240	1 x 0,34 WH	1,6	5	3,3
11005593	12537690	1 x 0,34 YE	1,6	5	3,3
11005563	12420676	1 x 0,5 BK	1,7	7	4,8
11005560	12420673	1 x 0,5 BN	1,7	7	4,8
11005559	12420672	1 x 0,5 BU	1,7	7	4,8
11005568	12420704	1 x 0,5 GN	1,7	7	4,8
11005561	12420674	1 x 0,5 GN-YE	1,7	7	4,8
11005569	12420705	1 x 0,5 GY	1,7	7	4,8
11005574	12507392	1 x 0,5 OG	1,7	7	4,8
11005562	12420675	1 x 0,5 RD	1,7	7	4,8
11005564	12420677	1 x 0,5 VT	1,7	7	4,8
11005565	12420678	1 x 0,5 WH	1,7	7	4,8
11005570	12420713	1 x 0,5 YE	1,7	7	4,8
11005514	12420028	1 x 0,75 BK	2,2	11	7,2
11005533	12420119	1 x 0,75 BN	2,2	11	7,2
11005513	12420027	1 x 0,75 BU	2,2	11	7,2
11005540	12420137	1 x 0,75 GN	2,2	11	7,2
11005515	12420029	1 x 0,75 GN-YE	2,2	11	7,2
11005555	12420328	1 x 0,75 GY	2,2	11	7,2
11005545	12420218	1 x 0,75 OG	2,2	11	7,2

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005512	12420026	1 x 0,75 RD	2,2	11	7,2
11005554	12420327	1 x 0,75 VT	2,2	11	7,2
11005531	12420093	1 x 0,75 WH	2,2	11	7,2
11005511	12420025	1 x 0,75 YE	2,2	11	7,2
11005519	12420038	1 x 1 BK	2,6	15	9,6
11005534	12420120	1 x 1 BN	2,6	15	9,6
11005518	12420037	1 x 1 BU	2,6	15	9,6
11005541	12420138	1 x 1 GN	2,6	15	9,6
11005520	12420039	1 x 1 GN-YE	2,6	15	9,6
11005551	12420323	1 x 1 GY	2,6	15	9,6
11005552	12420325	1 x 1 OG	2,6	15	9,6
11005710	12586544	1 x 1 PK	2,6	15	9,6
11005517	12420036	1 x 1 RD	2,6	15	9,6
11005556	12420329	1 x 1 VT	2,6	15	9,6
11005532	12420094	1 x 1 WH	2,6	15	9,6
11005516	12420035	1 x 1 YE	2,6	15	9,6
11005524	12420048	1 x 1,5 BK	2,7	19	14,4
11005535	12420121	1 x 1,5 BN	2,7	19	14,4
11005523	12420047	1 x 1,5 BU	2,7	19	14,4
11005542	12420139	1 x 1,5 GN	2,7	19	14,4
11005525	12420049	1 x 1,5 GN-YE	2,7	19	14,4
11005550	12420322	1 x 1,5 GY	2,7	19	14,4
11005553	12420326	1 x 1,5 OG	2,7	19	14,4
11005522	12420046	1 x 1,5 RD	2,7	19	14,4
11005589	12522330	1 x 1,5 VT	2,7	19	14,4
11005544	12420187	1 x 1,5 WH	2,7	19	14,4
11005521	12420045	1 x 1,5 YE	2,7	19	14,4
11005529	12420058	1 x 2,5 BK	3,4	30	24,0
11005536	12420122	1 x 2,5 BN	3,4	30	24,0
11005528	12420057	1 x 2,5 BU	3,4	30	24,0
11005547	12420249	1 x 2,5 GN	3,4	30	24,0
11005530	12420059	1 x 2,5 GN-YE	3,4	30	24,0
11005558	12420479	1 x 2,5 GY	3,4	30	24,0
11005510	12212661	1 x 2,5 OG	3,4	30	24,0
11005527	12420056	1 x 2,5 RD	3,4	30	24,0
11005580	12515557	1 x 2,5 VT	3,4	30	24,0
11005546	12420248	1 x 2,5 WH	3,4	30	24,0
11005526	12420055	1 x 2,5 YE	3,4	30	24,0
34847	12420061	1 x 4 BK	4,1	46	38,4
11005539	12420126	1 x 4 BN	4,1	46	38,4

Continuation ▸

RADOX® RXL 155

electron beam cross-linked single core, finely stranded

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005537	12420123	1 x 4 BU	4,1	46	38,4
11005549	12420274	1 x 4 GN	4,1	46	38,4
35198	12420125	1 x 4 GN-YE	4,1	46	38,4
11005557	12420478	1 x 4 GY	4,1	46	38,4
11005538	12420124	1 x 4 RD	4,1	46	38,4
11005581	12515558	1 x 4 VT	4,1	46	38,4
11005548	12420253	1 x 4 WH	4,1	46	38,4
11005543	12420169	1 x 4 YE	4,1	46	38,4
11005615	12560285	1 x 6 BK	5,2	65	57,6
11005609	12560279	1 x 6 BN	5,2	65	57,6
11005608	12560278	1 x 6 BU	5,2	65	57,6
11005612	12560282	1 x 6 GN	5,2	65	57,6
11005611	12560281	1 x 6 GN-YE	5,2	65	57,6
11005613	12560283	1 x 6 GY	5,2	65	57,6
11005614	12560284	1 x 6 RD	5,2	65	57,6
11005616	12560286	1 x 6 VT	5,2	65	57,6
11005617	12560287	1 x 6 WH	5,2	65	57,6
11005610	12560280	1 x 6 YE	5,2	65	57,6
11005622	12560292	1 x 10 BK	6,4	110	96,0
11005716	84112190	1 x 10 BN	6,4	110	96,0
11005642	12560518	1 x 10 BU	6,4	110	96,0
11005620	12560290	1 x 10 GN	6,4	110	96,0
11005619	12560289	1 x 10 GN-YE	6,4	110	96,0
11005648	12563437	1 x 10 GY	6,4	110	96,0
11005621	12560291	1 x 10 RD	6,4	110	96,0
11005623	12560293	1 x 10 WH	6,4	110	96,0
11005618	12560288	1 x 10 YE	6,4	110	96,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005627	12560297	1 x 16 BK	7,6	165	153,6
11005654	12565268	1 x 16 BN	7,6	165	153,6
11005624	12560294	1 x 16 BU	7,6	165	153,6
11005625	12560295	1 x 16 GN-YE	7,6	165	153,6
11005728	85076972	1 x 16 GY	7,6	165	153,6
11005626	12560296	1 x 16 RD	7,6	165	153,6
11005628	12560298	1 x 16 WH	7,6	165	153,6
11005729	85086089	1 x 16 YE	7,6	165	153,6
11005631	12560301	1 x 25 BK	9,2	250	240,0
11005629	12560299	1 x 25 GN-YE	9,2	250	240,0
11005630	12560300	1 x 25 RD	9,2	250	240,0
11005632	12560302	1 x 25 WH	9,2	250	240,0
11005633	12560303	1 x 35 BK	10,6	345	336,0
11005722	85018720	1 x 35 BU	10,6	345	336,0
11005650	12563889	1 x 35 GN-YE	10,6	345	336,0
11005651	12564046	1 x 35 OG	10,6	345	336,0
11005634	12560304	1 x 35 WH	10,6	345	336,0
35273	12560306	1 x 50 BK	12,3	500	480,0
11005721	85018699	1 x 50 BU	12,3	500	480,0
11005727	85071146	1 x 50 GN-YE	12,3	500	480,0
11005635	12560307	1 x 70 BK	14,6	680	672,0
11005636	12560308	1 x 95 BK	16,3	890	912,0
11005709	12585606	1 x 95 GN-YE	16,3	890	912,0
11005637	12560309	1 x 120 BK	18,4	1100	1152,0
11005638	12560310	1 x 150 BK	20,8	1420	1440,0
11005639	12560311	1 x 185 BK	22,5	1710	1776,0
11005640	12560312	1 x 240 BK	25,7	2250	2304,0

Dimensions and specifications may be changed without prior notice.

RADOX® RXL UL 3266 / CSA AWM IA/B

electron beam cross-linked single core, finely stranded

Technical data

- single core cable with high abrasion resistance and thermal pressure resistance
- **Temperature range**
  flexible -25°C to +125°C
  fixed -40°C to +125°C
- permissible **short circuit temperature**
  (short circuit duration max. 5 s)
  +280°C
- **Nominal voltage**
  U_0/U 300 V AC
- **Test voltage**
  2000 V
- **Minimum bending radius**
  3x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® 155 extruded electron beam cross-linked polyolefin
- Core identification: see table

Notes

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Properties

- flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- resistant to impregnating resins and varnishes
- electron beam cross-linked RADOX® insulation does not melt or flow

Tests

The cables meet the following fire tests

- Horizontal flame spread:
  FT2 L ⩽ 100 mm
  CSA C22.2 No. 0.3 # 4.11.2
- Horizontal flame spread:
  Appliance-wire V ⩽ 25 mm/min.
  UL 1581 # 1090

Approvals

- UL (Underwriters Laboratories)
  File no. E63322
- CSA (Canadian Standards Association)
  Report no. 69581
- Device cable CSA C22.2 No. 210.2
  AWM I A/B 125°C 300 V
- UL 758 Style 3266

Application

- Protected, fixed installation inside electrical equipment, especially suitable for connecting motor windings, control panels, magnets and transformers.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005432	12557574	26 AWG WH	1,3	3,2	1,2
11005509	85087384	26 AWG VT	1,3	3,2	1,2
11005429	12557568	26 AWG RD	1,3	3,2	1,2
11005430	12557569	26 AWG OG	1,3	3,2	1,2
11005431	12557572	26 AWG BU	1,3	3,2	1,2
11005428	12557567	26 AWG BN	1,3	3,2	1,2
11005427	12557566	26 AWG BK	1,3	3,2	1,2
11005419	12556853	24 AWG YE	1,5	4,1	2,0
11005421	12556856	24 AWG WH	1,5	4,1	2,0
11005424	12557175	24 AWG VT	1,5	4,1	2,0
34859	12556852	24 AWG RD	1,5	4,1	2,0
11005426	12557517	24 AWG OG	1,5	4,1	2,0
11005433	12558484	24 AWG GY	1,5	4,1	2,0
11005420	12556854	24 AWG GN	1,5	4,1	2,0
34858	12556855	24 AWG BU	1,5	4,1	2,0
11005418	12556851	24 AWG BN	1,5	4,1	2,0
11005417	12556850	24 AWG BK	1,5	4,1	2,0
11005423	12557161	22 AWG YE	1,7	5,3	3,1
11005439	12558498	22 AWG WH	1,7	5,3	3,1
11005438	12558497	22 AWG VT	1,7	5,3	3,1
11005435	12558494	22 AWG RD	1,7	5,3	3,1
11005436	12558495	22 AWG OG	1,7	5,3	3,1
11005425	12557321	22 AWG GY	1,7	5,3	3,1
11005441	12559058	22 AWG GN	1,7	5,3	3,1

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005437	12558496	22 AWG BU	1,7	5,3	3,1
11005449	12562263	22 AWG BN	1,7	5,3	3,1
11005434	12558493	22 AWG BK	1,7	5,3	3,1
11005412	12556831	20 AWG YE	1,8	9,3	5,0
11005409	12556828	20 AWG WH	1,8	9,3	5,0
11005440	12558898	20 AWG VT	1,8	9,3	5,0
11005414	12556833	20 AWG RD	1,8	9,3	5,0
11005413	12556832	20 AWG OG	1,8	9,3	5,0
11005422	12556925	20 AWG GY	1,8	9,3	5,0
11005468	12565703	20 AWG GN-YE	1,8	9,3	5,0
11005411	12556830	20 AWG GN	1,8	9,3	5,0
11005410	12556829	20 AWG BU	1,8	9,3	5,0
11005415	12556834	20 AWG BN	1,8	9,3	5,0
11005416	12556835	20 AWG BK	1,8	9,3	5,0
11005464	12565699	18 AWG YE	2,1	11,3	7,9
11005463	12565698	18 AWG WH	2,1	11,3	7,9
11005508	85086699	18 AWG VT	2,1	11,3	7,9
11005462	12565697	18 AWG RD	2,1	11,3	7,9
11005408	12522841	18 AWG OG	2,1	11,3	7,9
11005473	12567319	18 AWG GY	2,1	11,3	7,9
11005465	12565700	18 AWG GN-YE	2,1	11,3	7,9
11005446	12560065	18 AWG GN	2,1	11,3	7,9
11005461	12565696	18 AWG BU	2,1	11,3	7,9
11005460	12565695	18 AWG BN	2,1	11,3	7,9

Continuation ▸

RADOX® RXL UL 3266 / CSA AWM IA/B

electron beam cross-linked single core, finely stranded

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005445	12559821	18 AWG BK	2,1	11,3	7,9
11005459	12565691	16 AWG WH	2,4	16,5	12,5
11005458	12565690	16 AWG RD	2,4	16,5	12,5
11005476	12568812	16 AWG GN-YE	2,4	16,5	12,5
11005457	12565689	16 AWG GN	2,4	16,5	12,5
11005456	12565688	16 AWG BU	2,4	16,5	12,5
11005455	12565687	16 AWG BN	2,4	16,5	12,5
11005454	12565686	16 AWG BK	2,4	16,5	12,5
11005407	12522819	16 AWG OG	2,4	16,5	12,5
11005471	12566854	14 AWG WH	2,7	23,3	20,2

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005453	12565685	14 AWG RD	2,7	23,3	20,2
11005472	12566855	14 AWG GN-YE	2,7	23,3	20,2
11005452	12565684	14 AWG BU	2,7	23,3	20,2
11005497	84130135	14 AWG BN	2,7	23,3	20,2
11005451	12565683	14 AWG BK	2,7	23,3	20,2
11005496	84118064	12 AWG BU	3,2	35,3	31,8
11005447	12561781	12 AWG BK	3,2	35,3	31,8
11005501	85001104	10 AWG VT	3,9	56,1	50,5
11005450	12564022	10 AWG GN-YE	3,9	56,1	50,5

Dimensions and specifications may be changed without prior notice.

RADOX® RXL UL 3271 / CSA AWM IA/B

electron beam cross-linked single core, finely stranded

Technical data

- single core cable with high abrasion resistance and thermal pressure resistance
- **Temperature range**
  flexible -25°C to +125°C
  fixed -40°C to +125°C
- permissible **short circuit temperature**
  (short circuit duration max. 5 s)
  +280°C
- **Nominal voltage**
  U_0/U 600 V AC
- **Test voltage**
  2500 V
- **Minimum bending radius**
  fixed
  ⩽ (2) AWG 3x Outer-Ø
  > (2) AWG 4x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® extruded electron beam cross-linked polyolefin
- Core identification: see table

Notes

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Properties

- flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- electron beam cross-linked RADOX® insulation does not melt or flow

Tests

The cables meet the following fire tests

- Vertical flame spread FT1:
  (> 16 mm²).. L ⩽ 250 mm, t ⩽ 60 s
  CSA C22.2 No. 2556 # 9.3
- Horizontal flame spread FT2:
  L ⩽ 100 mm CSA C22.2 No. 2556 # 9.1
- Vertical flame spread:
  50 < L ⩽ 540 mm
  EN 60332-1-2, IEC 60332-1-2
- Horizontal flame spread:
  Appliance-wire V ⩽ 25 mm/min.
  UL 1581 # 1090

Approvals

- UL (Underwriters Laboratories)
  File No. E63322 L ⩽ 100 mm
  CSA C22.2 No. 0.3 # 4.11.2
- CSA (Canadian Standards Association)
  Report No. 069581
- Device cable CSA C22.2 No. 210.2
  AWM I A/B 125°C 600 V FT2
- UL 758 Style 3271

Application

- Protected, fixed installation inside electrical equipment, especially suitable for connecting motor windings, control panels, magnets and transformers.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005320	12556574	24 AWG WH	2,2	7,2	2,0
11005318	12556570	24 AWG RD	2,2	7,2	2,0
11005404	12582553	24 AWG OG	2,2	7,2	2,0
11005319	12556573	24 AWG BU	2,2	7,2	2,0
11005317	12556568	24 AWG BK	2,2	7,2	2,0
11005379	12563834	22 AWG WH	2,4	9,2	3,1
11005388	12567358	22 AWG VT	2,4	9,2	3,1
11005316	12553851	22 AWG RD	2,4	9,2	3,1
11005387	12567357	22 AWG OG	2,4	9,2	3,1
11005386	12566361	22 AWG GY	2,4	9,2	3,1
11005402	12567739	22 AWG GN-YE	2,4	9,2	3,1
11005389	12567360	22 AWG BU	2,4	9,2	3,1
11005390	12567362	22 AWG BN	2,4	9,2	3,1
11005375	12561565	22 AWG BK	2,4	9,2	3,1
11005325	12556586	20 AWG YE	2,6	12,0	5,0
11005329	12556591	20 AWG WH	2,6	12,0	5,0
11005323	12556584	20 AWG RD	2,6	12,0	5,0
11005324	12556585	20 AWG OG	2,6	12,0	5,0
11005328	12556590	20 AWG GY	2,6	12,0	5,0
11005326	12556587	20 AWG GN	2,6	12,0	5,0
11005327	12556588	20 AWG BU	2,6	12,0	5,0
11005322	12556583	20 AWG BN	2,6	12,0	5,0
11005321	12556582	20 AWG BK	2,6	12,0	5,0
11005333	12556595	18 AWG YE	2,9	16,0	7,9
11005337	12556599	18 AWG WH	2,9	16,0	7,9
11005332	12556594	18 AWG RD	2,9	16,0	7,9
11005401	12567738	18 AWG OG	2,9	16,0	7,9
11005336	12556598	18 AWG GY	2,9	16,0	7,9
11005338	12556600	18 AWG GN-YE	2,9	16,0	7,9
11005334	12556596	18 AWG GN	2,9	16,0	7,9
11005335	12556597	18 AWG BU	2,9	16,0	7,9
11005331	12556593	18 AWG BN	2,9	16,0	7,9
11005330	12556592	18 AWG BK	2,9	16,0	7,9
11005391	12567683	16 AWG YE	3,2	21,0	12,5
11005385	12566313	16 AWG WH	3,2	21,0	12,5
11005340	12556603	16 AWG RD	3,2	21,0	12,5
11005400	12567737	16 AWG OG	3,2	21,0	12,5
11005341	12556604	16 AWG GY	3,2	21,0	12,5
11005314	12552205	16 AWG GN-YE	3,2	21,0	12,5
11005313	12552204	16 AWG BU	3,2	21,0	12,5

Continuation ▸

RADOX® RXL UL 3271 / CSA AWM IA/B

electron beam cross-linked single core, finely stranded

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005339	12556602	16 AWG BN	3,2	21,0	12,5
11005312	12552203	16 AWG BK	3,2	21,0	12,5
11005344	12556607	14 AWG YE	3,5	29,0	20,2
11005347	12556610	14 AWG WH	3,5	29,0	20,2
11005343	12556606	14 AWG RD	3,5	29,0	20,2
11005399	12567736	14 AWG OG	3,5	29,0	20,2
11005346	12556609	14 AWG GY	3,5	29,0	20,2
11005348	12556611	14 AWG GN-YE	3,5	29,0	20,2
11005345	12556608	14 AWG GN	3,5	29,0	20,2
11005311	12552202	14 AWG BU	3,5	29,0	20,2
11005342	12556605	14 AWG BN	3,5	29,0	20,2
11005310	12552201	14 AWG BK	3,5	29,0	20,2
11005397	12567732	12 AWG WH	4,0	42,2	31,7
11005363	12557515	12 AWG RD	4,0	42,2	31,7
11005398	12567734	12 AWG OG	4,0	42,2	31,7
11005351	12556614	12 AWG GY	4,0	42,2	31,7
11005352	12556615	12 AWG GN-YE	4,0	42,2	31,7
11005364	12557516	12 AWG BU	4,0	42,2	31,7
11005350	12556613	12 AWG BN	4,0	42,2	31,7
11005349	12556612	12 AWG BK	4,0	42,2	31,7
11005396	12567730	10 AWG WH	4,7	64,1	50,9
11005355	12556618	10 AWG RD	4,7	64,1	50,9
11005395	12567729	10 AWG OG	4,7	64,1	50,9
11005369	12559265	10 AWG GY	4,7	64,1	50,9
11005357	12556620	10 AWG GN-YE	4,7	64,1	50,9
11005381	12565211	10 AWG GN	4,7	64,1	50,9
11005356	12556619	10 AWG BU	4,7	64,1	50,9
11005354	12556617	10 AWG BN	4,7	64,1	50,9
11005353	12556616	10 AWG BK	4,7	64,1	50,9
11005394	12567727	8 AWG (10 mm²) WH	6,4	121,0	96,0
11005367	12558126	8 AWG (10 mm²) RD	6,4	121,0	96,0
11005368	12558480	8 AWG (10 mm²) GY	6,4	121,0	96,0
11005309	12548452	8 AWG (10 mm²) GN-YE	6,4	121,0	96,0
11005376	12562285	8 AWG (10 mm²) BU	6,4	121,0	96,0
11005370	12560212	8 AWG (10 mm²) BN	6,4	121,0	96,0
11005358	12556621	8 AWG (10 mm²) BK	6,4	121,0	96,0
11005392	12567725	6 AWG (16 mm²) WH	8,6	188,0	153,6
11005393	12567726	6 AWG (16 mm²) RD	8,6	188,0	153,6
11005361	12556624	6 AWG (16 mm²) GY	8,6	188,0	153,6
11005373	12561041	6 AWG (16 mm²) GN-YE	8,6	188,0	153,6
11005374	12561342	6 AWG (16 mm²) BU	8,6	188,0	153,6
11005360	12556623	6 AWG (16 mm²) BK	8,6	188,0	153,6
11005377	12562841	4 AWG (25 mm²) BK	9,9	268,0	240,0
11005382	12565595	4 AWG (25 mm²) RD	9,9	268,0	240,0
11005362	12557013	4 AWG (25 mm²) GY	9,9	268,0	240,0
11005378	12563463	4 AWG (25 mm²) BU	9,9	268,0	240,0
11005406	12585480	2 AWG (35 mm²) RD	11,1	364,0	336,0
11005359	12556622	2 AWG (35 mm²) GY	11,1	364,0	336,0
11005383	12565876	2 AWG (35 mm²) GN-YE	11,1	364,0	336,0
11005405	12584302	2 AWG (35 mm²) BU	11,1	364,0	336,0
11005308	12547370	2 AWG (35 mm²) BK	11,1	364,0	336,0
11005365	12558020	1 AWG (50 mm²) GY	13,7	543,0	480,0
11005371	12560357	1 AWG (50 mm²) GN-YE	13,7	543,0	480,0
11005403	12582549	1 AWG (50 mm²) BU	13,7	543,0	480,0
11005366	12558023	1 AWG (50 mm²) BK	13,7	543,0	480,0
11005372	12560359	2/0 AWG (70 mm²) GN-YE	15,8	723,0	672,0
11005315	12552818	2/0 AWG (70 mm²) BK	15,8	723,0	672,0
11005380	12563839	3/0 AWG (95 mm²) BK	17,4	955,0	912,0
11005384	12566112	4/0 AWG (120 mm²) BK	19,6	1160,0	1152,0

Dimensions and specifications may be changed without prior notice.

RADOX® RXL UL 3289 / CSA CL 1503

electron beam cross-linked single core, finely stranded

Technical data

- single core cable with high abrasion resistance and thermal pressure resistance
- **Temperature range**
  flexible -40°C to +150°C
  fixed -55°C to +150°C
- **Nominal voltage**
  U_0/U 600 V AC
- **Test voltage**
  2500 V
- **Minimum bending radius**
  3x Outer-Ø

Cable structure

- Copper wire tinned, finely stranded acc. to EN 60228 cl.5
- Core insulation: RADOX® 155 extruded electron beam cross-linked polyolefin
- Core identification: see table

Notes

- please find further technical information in the H&S product data sheet
- other dimensions and colours on request

Properties

- flame-retardant
- very good resistance to: oil, fuel, ozone and weather influences
- cold flexible
- heat resistant
- resistant to impregnating resins and varnishes
- electron beam cross-linked RADOX® insulation does not melt or flow

Approvals

- UL (Underwriters Laboratories)
  File no. E63322
- CSA (Canadian Standards Association)
  Report no. 039507

Application

- Protected, fixed installation inside electrical equipment, especially suitable for connecting motor windings, control panels, magnets and transformers.

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005294	12586532	24 AWG YE	2,3	6,6	2,0
11005252	12568116	24 AWG WH	2,3	6,6	2,0
11005249	12566121	24 AWG RD	2,3	6,6	2,0
11005292	12586530	24 AWG GY	2,3	6,6	2,0
11005295	12586533	24 AWG GN-YE	2,3	6,6	2,0
11005303	84131585	24 AWG GN	2,3	6,6	2,0
11005304	84131855	24 AWG BU	2,3	6,6	2,0
11005293	12586531	24 AWG BN	2,3	6,6	2,0
11005251	12567946	24 AWG BK	2,3	6,6	2,0
11005289	12585219	22 AWG YE	2,4	7,9	3,1
11005258	12581606	22 AWG WH	2,4	7,9	3,1
11005300	84123511	22 AWG VT	2,4	7,9	3,1
11005192	12522898	22 AWG RD	2,4	7,9	3,1
11005301	84123518	22 AWG OG	2,4	7,9	3,1
11005194	12522904	22 AWG GY	2,4	7,9	3,1
11005298	84117939	22 AWG GN-YE	2,4	7,9	3,1
11005291	12586529	22 AWG GN	2,4	7,9	3,1
11005193	12522903	22 AWG BU	2,4	7,9	3,1
11005191	12522897	22 AWG BN	2,4	7,9	3,1
11005190	12522896	22 AWG BK	2,4	7,9	3,1
11005183	12522876	20 AWG YE	2,6	11,0	5,0
11005188	12522881	20 AWG WH	2,6	11,0	5,0
11005186	12522879	20 AWG VT	2,6	11,0	5,0
11005181	12522874	20 AWG RD	2,6	11,0	5,0
11005182	12522875	20 AWG OG	2,6	11,0	5,0
11005187	12522880	20 AWG GY	2,6	11,0	5,0
11005189	12522882	20 AWG GN-YE	2,6	11,0	5,0
11005184	12522877	20 AWG GN	2,6	11,0	5,0
11005185	12522878	20 AWG BU	2,6	11,0	5,0
11005180	12522873	20 AWG BN	2,6	11,0	5,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005179	12522872	20 AWG BK	2,6	11,0	5,0
11005173	12522853	18 AWG YE	2,9	15,0	7,9
11005177	12522858	18 AWG WH	2,9	15,0	7,9
11005176	12522856	18 AWG VT	2,9	15,0	7,9
11005171	12522851	18 AWG RD	2,9	15,0	7,9
11005172	12522852	18 AWG OG	2,9	15,0	7,9
11005208	12523379	18 AWG GY	2,9	15,0	7,9
11005178	12522859	18 AWG GN-YE	2,9	15,0	7,9
11005174	12522854	18 AWG GN	2,9	15,0	7,9
11005175	12522855	18 AWG BU	2,9	15,0	7,9
11005170	12522850	18 AWG BN	2,9	15,0	7,9
11005169	12522849	18 AWG BK	2,9	15,0	7,9
11005162	12522831	16 AWG YE	3,2	21,0	12,5
11005167	12522836	16 AWG WH	3,2	21,0	12,5
11005165	12522834	16 AWG VT	3,2	21,0	12,5
11005160	12522829	16 AWG RD	3,2	21,0	12,5
11005161	12522830	16 AWG OG	3,2	21,0	12,5
11005166	12522835	16 AWG GY	3,2	21,0	12,5
11005168	12522837	16 AWG GN-YE	3,2	21,0	12,5
11005163	12522832	16 AWG GN	3,2	21,0	12,5
11005164	12522833	16 AWG BU	3,2	21,0	12,5
11005159	12522828	16 AWG BN	3,2	21,0	12,5
34768	12522827	16 AWG BK	3,2	21,0	12,5
11005153	12522805	14 AWG YE	3,5	27,2	202,0
11005157	12522810	14 AWG WH	3,5	27,2	202,0
11005250	12566883	14 AWG VT	3,5	27,2	202,0
11005151	12522803	14 AWG RD	3,5	27,2	202,0
11005152	12522804	14 AWG OG	3,5	27,2	202,0
11005156	12522809	14 AWG GY	3,5	27,2	202,0
11005158	12522811	14 AWG GN-YE	3,5	27,2	202,0

Continuation ▸

RADOX® RXL UL 3289 / CSA CL 1503

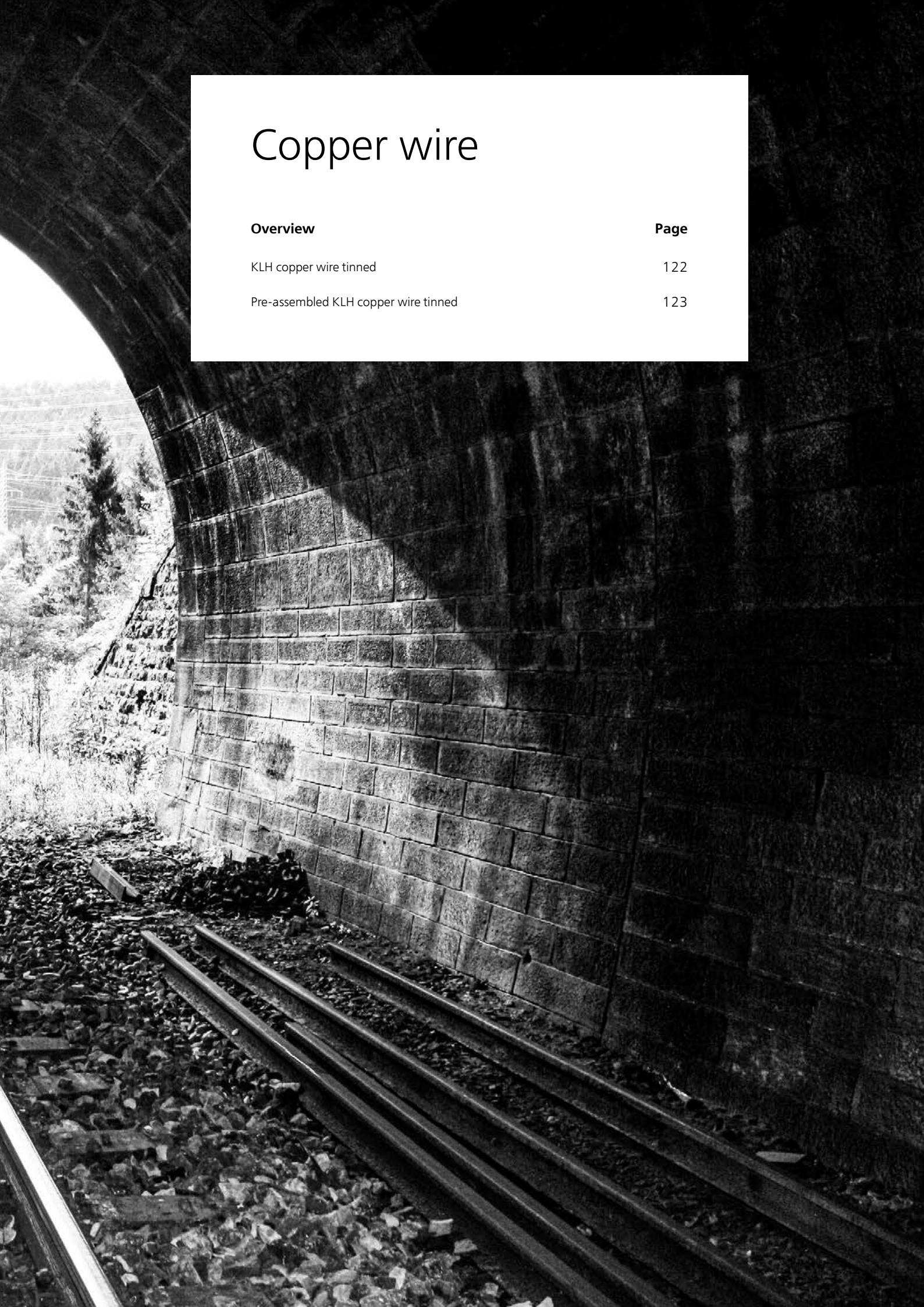
electron beam cross-linked single core, finely stranded

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
11005154	12522806	14 AWG GN	3,5	27,2	202,0
11005155	12522807	14 AWG BU	3,5	27,2	202,0
11005150	12522802	14 AWG BN	3,5	27,2	202,0
35222	12522801	14 AWG BK	3,5	27,2	202,0
11005198	12522945	12 AWG YE	4,0	40,0	31,7
11005200	12522950	12 AWG WH	4,0	40,0	31,7
11005257	12581251	12 AWG VT	4,0	40,0	31,7
11005197	12522943	12 AWG RD	4,0	40,0	31,7
11005255	12581249	12 AWG GY	4,0	40,0	31,7
11005201	12522951	12 AWG GN-YE	4,0	40,0	31,7
11005256	12581250	12 AWG GN	4,0	40,0	31,7
11005199	12522947	12 AWG BU	4,0	40,0	31,7
11005196	12522942	12 AWG BN	4,0	40,0	31,7
11005195	12522941	12 AWG BK	4,0	40,0	31,7
11005204	12522956	10 AWG YE	4,7	61,6	50,9
11005206	12522961	10 AWG WH	4,7	61,6	50,9
11005203	12522954	10 AWG RD	4,7	61,6	50,9
11005286	12584673	10 AWG GY	4,7	61,6	50,9
11005207	12522962	10 AWG GN-YE	4,7	61,6	50,9
11005283	12584339	10 AWG GN	4,7	61,6	50,9
11005205	12522958	10 AWG BU	4,7	61,6	50,9
11005202	12522953	10 AWG BN	4,7	61,6	50,9
35220	12522952	10 AWG BK	4,7	61,6	50,9
11005211	12528240	8 AWG (10 mm²) YE	6,4	117,0	96,0
11005214	12532370	8 AWG (10 mm²) WH	6,4	117,0	96,0
11005210	12528239	8 AWG (10 mm²) RD	6,4	117,0	96,0
11005215	12532462	8 AWG (10 mm²) GN-YE	6,4	117,0	96,0
11005212	12528241	8 AWG (10 mm²) GN	6,4	117,0	96,0
11005213	12528242	8 AWG (10 mm²) BU	6,4	117,0	96,0
11005209	12528238	8 AWG (10 mm²) BN	6,4	117,0	96,0

Part no.	Part no. H&S	No.cores x cross-sec. mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35221	12528237	8 AWG (10 mm²) BK	6,4	117,0	96,0
11005228	12560334	6 AWG (16 mm²) YE	8,9	184,0	153,6
11005307	85084750	6 AWG (16 mm²) WH	8,9	184,0	153,6
11005225	12560331	6 AWG (16 mm²) RD	8,9	184,0	153,6
11005227	12560333	6 AWG (16 mm²) GN-YE	8,9	184,0	153,6
11005226	12560332	6 AWG (16 mm²) GN	8,9	184,0	153,6
11005230	12560336	6 AWG (16 mm²) BU	8,9	184,0	153,6
11005229	12560335	6 AWG (16 mm²) BN	8,9	184,0	153,6
11005224	12560330	6 AWG (16 mm²) BK	8,9	184,0	153,6
11005235	12560341	4 AWG (25 mm²) YE	10,2	258,0	240,0
11005232	12560338	4 AWG (25 mm²) RD	10,2	258,0	240,0
11005234	12560340	4 AWG (25 mm²) GN-YE	10,2	258,0	240,0
11005233	12560339	4 AWG (25 mm²) GN	10,2	258,0	240,0
11005237	12560343	4 AWG (25 mm²) BU	10,2	258,0	240,0
11005236	12560342	4 AWG (25 mm²) BN	10,2	258,0	240,0
11005231	12560337	4 AWG (25 mm²) BK	10,2	258,0	240,0
11005242	12560348	2 AWG (35 mm²) YE	11,4	365,0	336,0
11005239	12560345	2 AWG (35 mm²) RD	11,4	365,0	336,0
11005305	85018696	2 AWG (35 mm²) OG	11,4	365,0	336,0
11005241	12560347	2 AWG (35 mm²) GN-YE	11,4	365,0	336,0
11005240	12560346	2 AWG (35 mm²) GN	11,4	365,0	336,0
11005244	12560350	2 AWG (35 mm²) BU	11,4	365,0	336,0
11005243	12560349	2 AWG (35 mm²) BN	11,4	365,0	336,0
11005238	12560344	2 AWG (35 mm²) BK	11,4	365,0	336,0
11005287	12584944	1 AWG (50 mm²) GN-YE	14,0	543,0	480,0
34769	12560351	1 AWG (50 mm²) BK	14,0	543,0	480,0
11005285	12584471	2/0 AWG (70 mm²) GN-YE	16,1	713,0	672,0
11005245	12560352	2/0 AWG (70 mm²) BK	16,1	713,0	672,0
11005284	12584470	3/0 AWG (95 mm²) GN-YE	17,6	936,0	912,0
11005247	12562475	3/0 AWG (95 mm²) BK	17,6	936,0	912,0

Dimensions and specifications may be changed without prior notice.

Copper wire



KLH copper wire tinned

ground and earth connection, highly flexible

Technical data

- copper wire, highly flexible, tinned
- **Material**
  CU-ETP1
- **Layer thickness / Coating**
  12,7 g/kg
- **Direction of lay**
  Z
- **Tensile strength**
  200 MPa
- **Elongation at break**
  10 %

Cable structure

- Copper wire tinned, extra fine wire
- Single wire diameter 0.2 mm

Properties

- highly flexible
- ready to use or cut to length
- in reference to DIN 46438
- very good cutting behaviour

Note

- other dimensions on request

Application

- The copper wires are used in switch and control cabinets, on cable trays and roof structures, as well as for underfloor components.

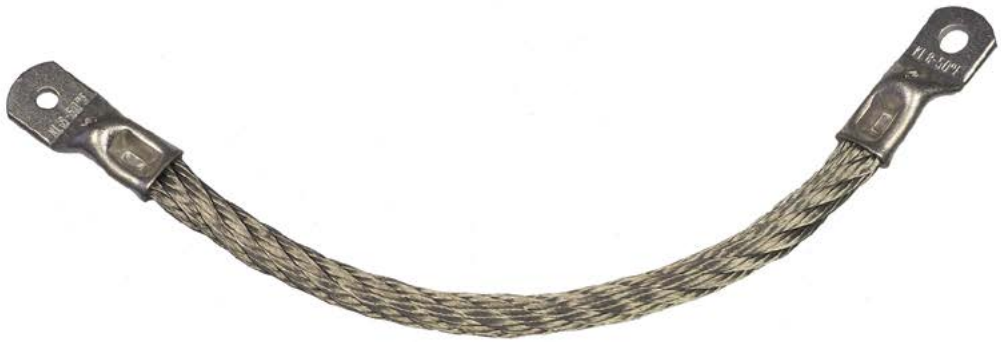
Part no.	Cross-section mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34757	10	5,3	100	100,0
34756	16	6,3	160	160,0
34753	25	7,8	250	250,0
34754	35	9,1	350	350,0

Part no.	Cross-section mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34763	50	10,6	500	500,0
34755	70	12,5	700	700,0
34759	95	15,9	950	950,0

Dimensions and specifications may be changed without prior notice.

Pre-assembled KLH copper wire tinned

ground and earth connection, highly flexible



Technical data

- pre-assembled copper wire, highly flexible, tinned
- **Material**
  CU-ETP1
- **Layer thickness / Coating**
  12,7 g/kg
- **Direction of lay**
  Z
- **Tensile strength**
  200 MPa
- **Elongation at break**
  10 %

Cable structure

- Copper wire tinned, extra fine wire
- Single wire diameter 0.2 mm
- Cable lug on both sides

Properties

- highly flexible
- pre-assembled for connection
- in reference to DIN 46438

Note

- other dimensions on request

Application

- The copper wires are used in switch and control cabinets, on cable trays and roof structures, as well as for underfloor components.

Part no.	Cross-section mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35123	5 - 16 - 150 - 8	6,3	42	incl.
35172	5 - 16 - 200 - 8	6,3	49	incl.
35124	5 - 16 - 250 - 8	6,3	55	incl.
35186	5 - 16 - 300 - 8	6,3	64	incl.
35083	5 - 16 - 350 - 10	6,3	72	incl.
35125	5 - 16 - 350 - 8	6,3	72	incl.
35173	5 - 16 - 750 - 8	6,3	128	incl.
35174	5 - 16 - 900 - 8	6,3	158	incl.
35082	5 - 16 - 950 - 8	6,3	167	incl.
34925	6 - 16 - 100 - 6	6,3	32	incl.
34911	6 - 16 - 100 - 8	6,3	34	incl.
34927	6 - 16 - 150 - 10	6,3	42	incl.
35036	6 - 16 - 150 - 6	6,3	41	incl.
35038	6 - 16 - 150 - 8	6,3	42	incl.
34928	6 - 16 - 200 - 10	6,3	47	incl.
34905	6 - 16 - 200 - 6	6,3	49	incl.
35039	6 - 16 - 200 - 8	6,3	48	incl.
34929	6 - 16 - 250 - 10	6,3	52	incl.
34906	6 - 16 - 250 - 6	6,3	56	incl.
35040	6 - 16 - 250 - 8	6,3	55	incl.
34924	6 - 16 - 300 - 10	6,3	66	incl.
34907	6 - 16 - 300 - 6	6,3	62	incl.
35041	6 - 16 - 300 - 8	6,3	64	incl.
35032	6 - 16 - 350 - 10	6,3	72	incl.
34908	6 - 16 - 350 - 6	6,3	70	incl.
34932	6 - 16 - 350 - 8	6,3	72	incl.
34862	6 - 16 - 400 - 10	6,3	80	incl.
35179	6 - 16 - 400 - 6	6,3	78	incl.
35042	6 - 16 - 400 - 8	6,3	78	incl.
34863	6 - 16 - 450 - 10	6,3	89	incl.
35037	6 - 16 - 450 - 6	6,3	87	incl.
35101	6 - 16 - 450 - 8	6,3	88	incl.

Part no.	Cross-section mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
34864	6 - 16 - 500 - 10	6,3	98	incl.
34909	6 - 16 - 500 - 6	6,3	94	incl.
34914	6 - 16 - 500 - 8	6,3	95	incl.
35085	6 - 16 - 550 - 10	6,3	101	incl.
34910	6 - 16 - 550 - 6	6,3	104	incl.
35074	6 - 16 - 550 - 8	6,3	101	incl.
35086	6 - 16 - 600 - 10	6,3	113	incl.
35073	6 - 16 - 600 - 6	6,3	110	incl.
35102	6 - 16 - 600 - 8	6,3	113	incl.
34865	6 - 16 - 650 - 10	6,3	120	incl.
11007139	6 - 16 - 650 - 6	6,3	118	incl.
35043	6 - 16 - 650 - 8	6,3	118	incl.
35087	6 - 16 - 700 - 10	6,3	126	incl.
35274	6 - 16 - 700 - 6	6,3	127	incl.
35138	8 - 16 - 100 - 8	6,3	35	incl.
34868	8 - 16 - 150 - 10	6,3	42	incl.
34916	8 - 16 - 150 - 8	6,3	42	incl.
34922	8 - 16 - 200 - 10	6,3	50	incl.
34912	8 - 16 - 200 - 8	6,3	50	incl.
34869	8 - 16 - 250 - 10	6,3	58	incl.
35166	8 - 16 - 250 - 8	6,3	56	incl.
35034	8 - 16 - 300 - 10	6,3	66	incl.
34917	8 - 16 - 300 - 8	6,3	66	incl.
34870	8 - 16 - 350 - 10	6,3	74	incl.
35167	8 - 16 - 350 - 8	6,3	75	incl.
34923	8 - 16 - 400 - 10	6,3	80	incl.
35045	8 - 16 - 400 - 8	6,3	80	incl.
35189	8 - 16 - 450 - 10	6,3	86	incl.
35103	8 - 16 - 450 - 8	6,3	136	incl.
34871	8 - 16 - 500 - 10	6,3	100	incl.
35046	8 - 16 - 500 - 8	6,3	96	incl.
34872	8 - 16 - 550 - 10	6,3	106	incl.

Continuation ▸

Pre-assembled KLH copper wire tinned

ground and earth connection, highly flexible

Part no.	Cross-section mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35168	8 - 16 - 550 - 8	6,3	90	incl.
35122	8 - 16 - 600 - 10	6,3	113	incl.
35047	8 - 16 - 600 - 8	6,3	113	incl.
35035	8 - 16 - 650 - 10	6,3	120	incl.
35075	8 - 16 - 650 - 8	6,3	120	incl.
35089	8 - 16 - 700 - 10	6,3	128	incl.
35076	8 - 16 - 700 - 8	6,3	128	incl.
34873	8 - 16 - 750 - 10	6,3	138	incl.
35104	8 - 16 - 750 - 8	6,3	138	incl.
35090	8 - 16 - 800 - 10	6,3	114	incl.
35048	8 - 16 - 800 - 8	6,3	142	incl.
35105	8 - 16 - 850 - 8	6,3	152	incl.
35169	8 - 16 - 900 - 8	6,3	165	incl.
34874	8 - 16 - 950 - 10	6,3	168	incl.
35106	8 - 16 - 950 - 8	6,3	168	incl.
34875	10 - 16 - 150 - 10	6,3	44	incl.
34876	10 - 16 - 200 - 10	6,3	50	incl.
34877	10 - 16 - 250 - 10	6,3	60	incl.
34878	10 - 16 - 300 - 10	6,3	66	incl.
35091	10 - 16 - 350 - 10	6,3	74	incl.
34879	10 - 16 - 400 - 10	6,3	85	incl.
34880	10 - 16 - 500 - 10	6,3	98	incl.
34881	10 - 16 - 650 - 10	6,3	121	incl.
34882	10 - 16 - 700 - 10	6,3	130	incl.
35092	10 - 16 - 950 - 10	6,3	168	incl.
35126	6 - 50 - 150 - 10	10,6	126	incl.
35060	6 - 50 - 150 - 6	10,6	130	incl.
35170	6 - 50 - 150 - 8	10,6	260	incl.
34883	6 - 50 - 200 - 12	10,6	140	incl.
35190	6 - 50 - 200 - 6	10,6	150	incl.
35049	6 - 50 - 200 - 8	10,6	160	incl.
35093	6 - 50 - 250 - 12	10,6	175	incl.
35050	6 - 50 - 250 - 8	10,6	175	incl.
35191	6 - 50 - 300 - 6	10,6	200	incl.
35051	6 - 50 - 300 - 8	10,6	202	incl.
35171	6 - 50 - 350 - 8	10,6	262	incl.
35127	6 - 50 - 400 - 10	10,6	251	incl.
35163	6 - 16 - 700 - 8	6,3	127	incl.
35088	6 - 16 - 750 - 10	6,3	138	incl.
35164	6 - 16 - 750 - 8	6,3	132	incl.
34866	6 - 16 - 800 - 10	6,3	142	incl.
35180	6 - 16 - 800 - 6	6,3	156	incl.
34933	6 - 16 - 800 - 8	6,3	143	incl.
35033	6 - 16 - 850 - 10	6,3	150	incl.
35100	6 - 16 - 850 - 6	6,3	146	incl.
35165	6 - 16 - 850 - 8	6,3	150	incl.
35162	6 - 16 - 900 - 6	6,3	165	incl.
35044	6 - 16 - 900 - 8	6,3	158	incl.
34867	6 - 16 - 950 - 10	6,3	164	incl.
34915	6 - 16 - 950 - 8	6,3	162	incl.
35052	6 - 50 - 400 - 8	10,6	244	incl.
35175	6 - 50 - 450 - 10	10,6	273	incl.
35187	6 - 50 - 500 - 10	10,6	300	incl.
35053	6 - 50 - 500 - 8	10,6	286	incl.
35128	6 - 50 - 550 - 10	10,6	326	incl.
35129	6 - 50 - 650 - 10	10,6	380	incl.
35181	6 - 50 - 650 - 8	10,6	375	incl.
35130	6 - 50 - 700 - 10	10,6	398	incl.
35131	6 - 50 - 800 - 10	10,6	460	incl.
35054	6 - 50 - 800 - 8	10,6	412	incl.
35176	6 - 50 - 900 - 10	10,6	499	incl.
35188	6 - 50 - 950 - 10	10,6	520	incl.
35139	6 - 50 - 1000 - 10	10,6	584	incl.
35111	8 - 50 - 150 - 10	10,6	126	incl.
34900	8 - 50 - 150 - 12	10,6	140	incl.
35107	8 - 50 - 150 - 8	10,6	126	incl.
35112	8 - 50 - 200 - 10	10,6	140	incl.
35193	8 - 50 - 200 - 12	10,6	145	incl.
35055	8 - 50 - 200 - 8	10,6	152	incl.
34934	8 - 50 - 250 - 10	10,6	175	incl.
34901	8 - 50 - 250 - 12	10,6	175	incl.
35108	8 - 50 - 250 - 8	10,6	175	incl.
35022	8 - 50 - 300 - 10	10,6	200	incl.
34902	8 - 50 - 300 - 12	10,6	200	incl.
35056	8 - 50 - 300 - 8	10,6	201	incl.
35023	8 - 50 - 350 - 10	10,6	225	incl.
34918	8 - 50 - 350 - 8	10,6	230	incl.
35077	8 - 50 - 400 - 10	10,6	251	incl.
34903	8 - 50 - 400 - 12	10,6	251	incl.
35057	8 - 50 - 400 - 8	10,6	260	incl.
35024	8 - 50 - 450 - 10	10,6	273	incl.
35109	8 - 50 - 450 - 8	10,6	276	incl.
35025	8 - 50 - 500 - 10	10,6	298	incl.
35178	8 - 50 - 500 - 12	10,6	300	incl.
35058	8 - 50 - 500 - 8	10,6	295	incl.
34935	8 - 50 - 550 - 10	10,6	326	incl.
34904	8 - 50 - 550 - 12	10,6	326	incl.

Part no.	Cross-section mm²	Outer Ø app. mm	Weight app. kg / km	Copper weight kg / km
35182	8 - 50 - 550 - 8	10,6	326	incl.
35078	8 - 50 - 600 - 10	10,6	345	incl.
35059	8 - 50 - 600 - 8	10,6	350	incl.
35113	8 - 50 - 650 - 10	10,6	375	incl.
35110	8 - 50 - 650 - 8	10,6	360	incl.
35079	8 - 50 - 750 - 10	10,6	424	incl.
35114	8 - 50 - 800 - 10	10,6	438	incl.
11007140	8 - 50 - 800 - 8	10,6	498	incl.
35080	8 - 50 - 850 - 10	10,6	471	incl.
11007150	8 - 50 - 850 - 12	10,6	352	incl.
35021	8 - 50 - 900 - 8	10,6	498	incl.
34919	10 - 50 - 150 - 10	10,6	124	incl.
35026	10 - 50 - 200 - 10	10,6	150	incl.
11007141	10 - 50 - 200 - 12	10,6	202	incl.
35115	10 - 50 - 250 - 10	10,6	176	incl.
34920	10 - 50 - 300 - 10	10,6	200	incl.
35031	10 - 50 - 300 - 12	10,6	202	incl.
35027	10 - 50 - 350 - 10	10,6	224	incl.
35116	10 - 50 - 400 - 10	10,6	240	incl.
11007142	10 - 50 - 400 - 12	10,6	202	incl.
35028	10 - 50 - 450 - 10	10,6	276	incl.
35117	10 - 50 - 500 - 10	10,6	300	incl.
35084	10 - 50 - 500 - 12	10,6	300	incl.
35029	10 - 50 - 550 - 10	10,6	325	incl.
35030	10 - 50 - 600 - 10	10,6	352	incl.
35183	10 - 50 - 650 - 10	10,6	375	incl.
35118	10 - 50 - 700 - 10	10,6	420	incl.
35081	10 - 50 - 750 - 10	10,6	420	incl.
34921	10 - 50 - 800 - 10	10,6	450	incl.
35119	10 - 50 - 850 - 10	10,6	484	incl.
35120	10 - 50 - 900 - 10	10,6	499	incl.
35121	10 - 50 - 950 - 10	10,6	520	incl.
11007143	12 - 50 - 150 - 12	10,6	175	incl.
34926	12 - 50 - 250 - 12	10,6	175	incl.
35195	10 - 70 - 200 - 10	12,5	300	incl.
35196	10 - 70 - 400 - 10	12,5	480	incl.
35197	10 - 70 - 650 - 10	12,5	600	incl.
35136	8 - 95 - 150 - 10	15,9	231	incl.
35132	8 - 95 - 150 - 12	15,9	232	incl.
35177	8 - 95 - 200 - 12	15,9	260	incl.
35061	8 - 95 - 250 - 12	15,9	320	incl.
34894	8 - 95 - 250 - 8	15,9	324	incl.
35062	8 - 95 - 300 - 12	15,9	366	incl.
34930	8 - 95 - 300 - 8	15,9	366	incl.
35063	8 - 95 - 350 - 12	15,9	416	incl.
34895	8 - 95 - 350 - 8	15,9	400	incl.
35094	8 - 95 - 400 - 12	15,9	460	incl.
34931	8 - 95 - 400 - 8	15,9	460	incl.
35133	8 - 95 - 450 - 12	15,9	518	incl.
35064	8 - 95 - 500 - 12	15,9	560	incl.
34896	8 - 95 - 550 - 10	15,9	600	incl.
34990	8 - 95 - 550 - 12	15,9	620	incl.
11007144	8 - 95 - 600 - 12	15,9	620	incl.
11007148	8 - 95 - 850 - 10	15,9	400	incl.
34884	10 - 95 - 150 - 12	15,9	228	incl.
34897	10 - 95 - 200 - 10	15,9	270	incl.
35065	10 - 95 - 200 - 12	15,9	270	incl.
34898	10 - 95 - 250 - 10	15,9	324	incl.
35066	10 - 95 - 250 - 12	15,9	320	incl.
35137	10 - 95 - 300 - 10	15,9	381	incl.
34885	10 - 95 - 300 - 12	15,9	376	incl.
11007149	10 - 95 - 350 - 10	15,9	381	incl.
35067	10 - 95 - 350 - 12	15,9	420	incl.
35095	10 - 95 - 400 - 12	15,9	471	incl.
35072	10 - 95 - 450 - 10	15,9	512	incl.
35096	10 - 95 - 450 - 12	15,9	520	incl.
34886	10 - 95 - 500 - 12	15,9	570	incl.
34899	10 - 95 - 550 - 10	15,9	600	incl.
11007145	10 - 95 - 550 - 12	15,9	570	incl.
35068	10 - 95 - 600 - 12	15,9	664	incl.
35097	10 - 95 - 750 - 12	15,9	800	incl.
11007146	10 - 95 - 800 - 12	15,9	800	incl.
35134	12 - 95 - 150 - 12	15,9	231	incl.
34887	12 - 95 - 200 - 12	15,9	270	incl.
34888	12 - 95 - 250 - 12	15,9	328	incl.
34889	12 - 95 - 300 - 12	15,9	377	incl.
34890	12 - 95 - 350 - 12	15,9	410	incl.
35069	12 - 95 - 400 - 12	15,9	458	incl.
35098	12 - 95 - 450 - 12	15,9	520	incl.
34891	12 - 95 - 500 - 12	15,9	550	incl.
35070	12 - 95 - 550 - 12	15,9	615	incl.
35135	12 - 95 - 600 - 12	15,9	664	incl.
34892	12 - 95 - 650 - 12	15,9	707	incl.
35192	12 - 95 - 700 - 12	15,9	910	incl.
34893	12 - 95 - 750 - 12	15,9	796	incl.
35071	12 - 95 - 800 - 12	15,9	832	incl.
11007147	12 - 95 - 900 - 12	15,9	832	incl.

Dimensions and specifications may be changed without prior notice.

ELEKTROTECHNICKÝ ZKUŠEBNÍ ÚSTAV

ELECTROTECHNICAL TESTING INSTITUTE - CZECH REPUBLIC
ELEKTROTECHNISCHE PRÜFANSTALT - TSCHECHISCHE REPUBLIK
INSTITUT ELECTROTECHNIQUE D'ESSAIS - RÉPUBLIQUE TCHÈQUE
ЭЛЕКТРОТЕХНИЧЕСКИЙ ИСПЫТАТЕЛЬНЫЙ ИНСТИТУТ - ЧЕШСКАЯ РЕСПУБЛИКА

Pod lisem 129/2, 171 02 Praha 8 - Troja

CERTIFIKÁT

č.: 1200391

Výrobek: Flexibilní zesítěný bezhalogenový vodič

Typ: HELUTHERM 145

Jmenovité hodnoty: 0,25 mm², 0,34 mm², 0,5 mm², 0,75 mm², 1 mm², 1,5 mm², 2,5 mm², 4 mm², 6 mm², 10 mm², 16 mm², 25 mm², 35 mm², 50 mm², 70 mm², 95 mm², 120 mm², 150 mm², 185 mm², 240 mm²

Objednatel: Helukabel CZ s.r.o.
Dál Max 39, 273 06 Libušín, Česká republika

Výrobce: Helukabel GmbH
Dieselstrasse 8-12, D-71282 Hemmingen, Německo

Výrobní místo: Helukabel GmbH
Neueser Weg 11, 91575 Windsbach, Německo

Obchodní značka:

Výsledky zkoušek jsou uvedeny v protokolu č.: 021731-01/01 ze dne: 30.07.2020

Vzorek zkušebního výrobku je ve shodě s požadavky:
ČSN EN 60332-1-1:05+A1:16, ČSN EN 60332-1-2:05+A1:16+A11:17, ČSN EN IEC 60332-3-10 ed.2:19,
ČSN EN IEC 60332-3-24 ed.2:19, ČSN EN 61034-1:06+A1:14, ČSN EN 61034-2:06+A1:14, ČSN EN 50305:03, čl. 9.1, 9.2

Jiné údaje: ČSN EN 45545-2+A1:2016
R15(EL1A), R16(EL1B)

Certifikát byl vydán na základě splnění požadavků certifikačního schématu „EZÚ certifikát" a na základě smlouvy č. 021731 mezi objednavatelem a Elektrotechnickým zkušebním ústavem.

Shoda výrobku s uvedenými normami a předpisy zajišťuje shoda výrobku se základními požadavky nařízení vlády č. 118/2016 Sb. (2014/35/EU) v platném znění a certifikát může být použit jako podklad pro EU Prohlášení o shodě podle zákona č. 90/2016 Sb. o posuzování shody stanovených výrobků při jejich dodávání na trh, v platném znění.

Platnost certifikátu je omezena do: 03.08.2023

04.08.2020

V Praze dne

Mgr. Miroslav Sedláček
Vedoucí certifikačního orgánu

elektrotechnický zkušební ústav
ezú
-1-
Pod lisem 129/2, 171 02 Praha 8 - Troja
razítko

021731-01

Bauaufsichtlich anerkannte Prüf-, Überwachungs- und Zertifizierungsstelle
Prüfstelle für Feuerlöschmittel und -geräte
DIN EN ISO/IEC 17025: D-PL-17819-01-00
DIN EN ISO/IEC 17065: D-ZE-17819-01-00
DIN EN ISO/IEC 17020: D-IS-17819-01-00
ZLS-GS-0066
Notified Body no. 0767

MPA Dresden

Klassifizierung
classification

Nr./ *no.* 20170439/07

1. Ausfertigung/ *1. Issue*

Auftraggeber: *Client*
HELUKABEL® GmbH
Dieselstraße 8 - 12
71282 Hemmingen/Stuttgart, Deutschland

Hersteller: *Manufacturer*
HELUKABEL® GmbH
Dieselstraße 8 - 12
71282 Hemmingen/Stuttgart, Deutschland

Kabelfamilie: *Cable family:*
HELUTHERM® 145 MULTI-C

Aderanzahl x Querschnitt/ *no.of cores x cross section*
m ... n x o [mm²]

5 ... 7 x 0,25	2 ... 21 x 2,5
3 ... 21 x 0,5	1 ... 14 x 4
2 ... 21 x 0,75	1 ... 7 x 6
2 ... 21 x 1,0	1 ... 7 x 10
2 ... 25 x 1,5	

Technische Eigenschaften: *Technical characteristics:*
Das Kabel erfüllt die Anforderungen nach:
The cable meet the requirements of:

DIN EN 45545-2:2016-02, Komponente EL1A, Kabel für Innen, Anforderung R15-T09.01, T09.02, T09.03, T13, T15: HL1 – HL3
DIN EN 45545-2:2016-02, component EL1A Cables for interior, requirement R15-T09.01, T09.02, T09.03, T13, T15: HL1 to HL3

DIN EN 45545-2:2016-02, Komponente EL1B, Kabel für Aussen, Anforderung R16-T09.01, T09.02, T09.03, T13, T15: HL1 – HL3
DIN EN 45545-2:2016-02, component EL1B Cables for exterior, requirement R16-T09.01, T09.02, T09.03, T13, T15: HL1 – HL3

Klassifizierungsumfang: *This classification comprises:*
2 Seiten und 0 Anlagen
2 pages and 0 annexes

11. September 2017

Veröffentlichungen von Dokumenten, auch auszugsweise, und Hinweise auf Prüfungen zu Werbezwecken bedürfen in jedem Einzelfalle der schriftlichen Einwilligung der MPA Dresden GmbH. Die einzelnen Blätter des Dokumentes sind mit dem Firmenstempel der MPA Dresden GmbH versehen.
Publications of documents also in the form of extracts and references to tests for advertising need in every case the written agreement of the test institute. Every pages of this document is stamped with the seal of the test institute.

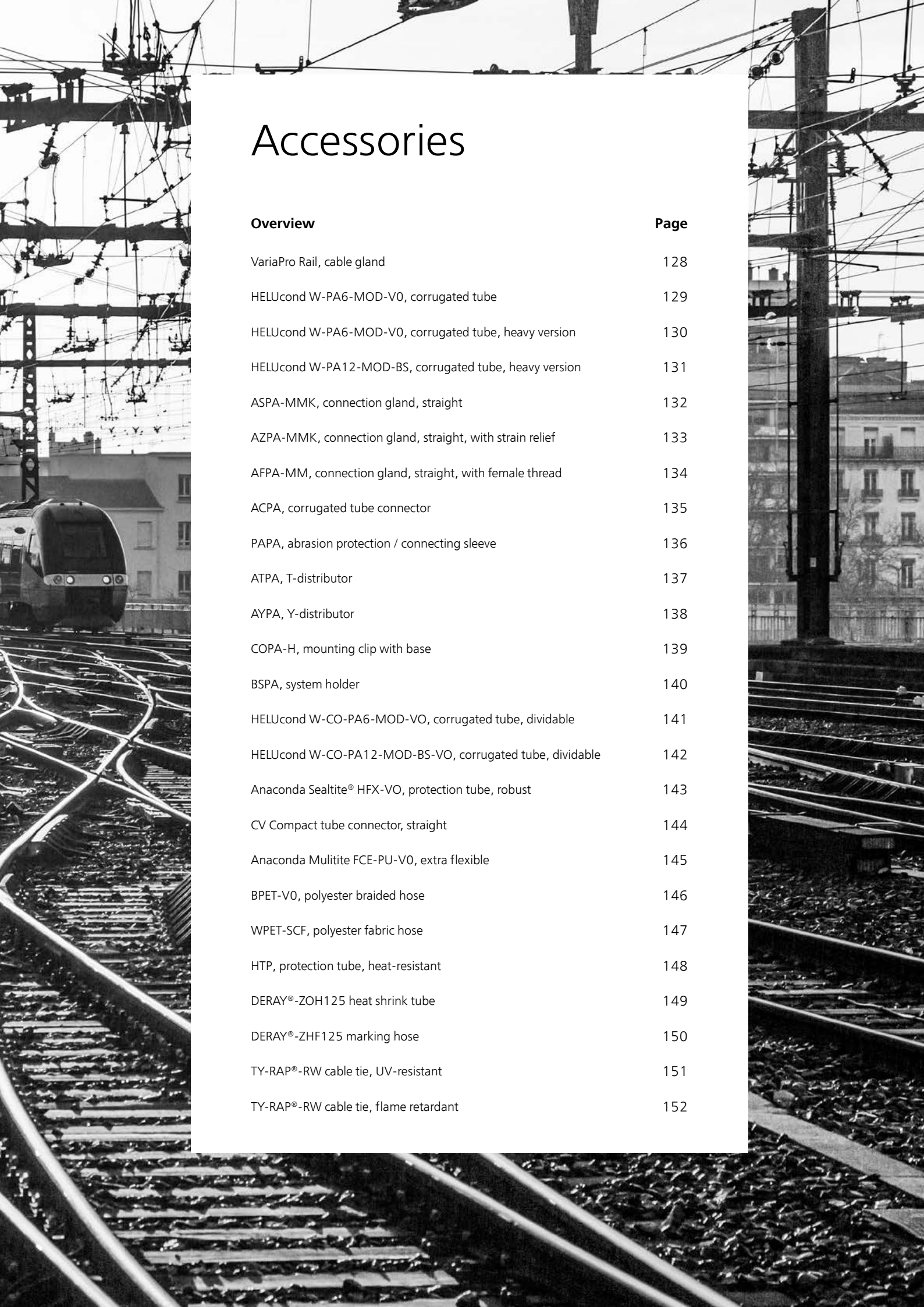
MPA Dresden GmbH
Fuchsmühlenweg 6F
09599 Freiberg
www.mpa-dresden.de

Geschäftsführer: Thomas Höbler
Tel. +49(0)3731-20393-0
Fax +49(0)3731-20393110
E-Mail info@mpa-dresden.de

Amtsgericht Chemnitz HRB 28268
Steuernummer: 220/114/03364
USt-IdNr. DE291271296

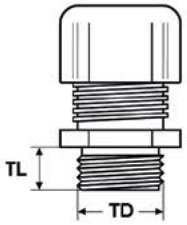
Sparkasse Mittelsachsen
Poststraße 1a
09599 Freiberg
IBAN DE66 8705200031150246 72
BIC WELADED1FGX

Additional railway cable products such as BETATRANS, Studer HELUTHERM® 145, HELUTHERM® 145 MULTI-C Available ex stock



Accessories

VariaPro Rail cable gland



VariaPro Rail
Brass cable gland with integrated EMC-connection. Slim structure for space saving installation. Extremely high stain relief. No twisting of inserts and cables.

Material
Brass, nickel plated
Seal: EPDM
O-ring: EPDM
Fire protection standard: EN 45545-2; EN 45545-3

Note
Other thread types and models available on request.

Technical data
Protection class: IP 68 - 10 bar

Temperature range: -40°C up to +100°C

Dimensions

TD	Thread Diameter
TL	Thread Length
SZ	Spanner Size

Metric thread

Part no.	Size Metr.	Cable Ø from / to mm	Thread length mm	Spanner size mm	Packaging unit	
11020566	M12 x 1,5	2,0 - 8,0	6,5	16 / 17	25	-
11020567	M12 x 1,5	5,0 - 8,0	6,5	16 / 17	25	-
11020568	M16 x 1,5	4,0 - 11,0	7,0	19 / 20	25	-
11020569	M16 x 1,5	7,0 - 11,0	7,0	19 / 20	25	-
11020570	M20 x 1,5	7,0 - 14,0	6,0	22 / 24	25	-
11020571	M20 x 1,5	10,0 - 14,0	6,0	22 / 24	25	-
11020572	M25 x 1,5	11,0 - 18,0	7,0	27 / 30	25	-
11020573	M25 x 1,5	14,5 - 18,0	7,0	27 / 30	25	-
11020574	M32 x 1,5	16,0 - 25,0	8,0	36 / 40	10	-
11020575	M32 x 1,5	20,5 - 25,0	8,0	36 / 40	10	-
11020576	M40 x 1,5	21,0 - 32,0	8,0	46 / 50	5	-
11020577	M40 x 1,5	26,5 - 32,0	8,0	46 / 50	5	-
11020578	M50 x 1,5	31,0 - 42,0	9,0	57 / 57	5	-
11020579	M50 x 1,5	35,0 - 42,0	9,0	57 / 57	5	-
11020580	M63 x 1,5	41,0 - 54,0	10,0	65 / 68	1	-
11020581	M63 x 1,5	46,5 - 54,0	10,0	65 / 68	1	-

Dimensions and specifications may be changed without prior notice.

HELUcond W-PA6-MOD-V0 corrugated tubes PA6

HELUcond W-PA6-MOD-V0

Cable protecion tube for medium to heavy-duty applications. For cable protection applications with the highest fire protection requirements.

Material

PA6 MOD V0

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Mainly for inside installation.
Filling ratio max. 70%

Technical data

Temperature range: -45°C up to +120°C
Temperature range short term up to +150°C

Fine profile / PA6-MOD-V0-F

Part no. grey	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11007611	FPAFF-07G.50	7	6,2	10,0	15	50	-
11007612	FPAFF-10G.50	10	9,6	12,8	20	50	-
11007613	FPAFF-12G.50	12	12,0	15,7	30	50	-

Fine profile / PA6-MOD-V0-F

Part no. black	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11007623	FPAFF-07B.50	7	6,2	10,0	15	50	-
11007624	FPAFF-10B.50	10	9,6	12,8	20	50	-
11007625	FPAFF-12B.50	12	12,0	15,7	30	50	-

Wide profile / PA6-MOD-V0-B

Part no. grey	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11007614	FPAFC-17G.50	17	16,1	21,1	35	50	-
11007615	FPAFC-23G.50	23	22,0	28,4	40	50	-
11007616	FPAFC-29G.50	29	28,3	34,5	50	50	-
11007617	FPAFC-36G.25	36	35,8	42,2	55	25	-
11007618	FPAFC-48G.25	48	46,7	53,8	65	25	-
11007619	FPAFC-56G.25	56	56,3	67,2	100	25	-
11007620	FPAFC-70G.25	70	67,2	79,6	130	25	-
11007621	FPAFC-95G.10	95	91,3	106,0	170	10	-
11007622	FPAFC-125G.10	125	126,5	146,5	380	10	-

Wide profile / PA6-MOD-V0-B

Part no. black	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11007626	FPAFC-17B.50	17	16,1	21,1	35	50	-
11007627	FPAFC-23B.50	23	22,0	28,4	40	50	-
11007628	FPAFC-29B.50	29	28,3	34,5	50	50	-
11007629	FPAFC-36B.25	36	35,8	42,2	55	25	-
11007630	FPAFC-48B.25	48	46,7	53,8	65	25	-
11007631	FPAFC-56B.25	56	56,3	67,2	100	25	-
11007632	FPAFC-70B.25	70	67,2	79,6	130	25	-
11007633	FPAFC-95B.10	95	91,3	106,0	170	10	-
11007634	FPAFC-125B.10	125	126,5	146,5	380	10	-

HELUcond W-PA6-MOD-V0

corrugated tubes PA6

heavy version

HELUcond W-PA6-MOD-V0

Heavy duty cable protection tube with very good mechanical properties for the most demanding technical requirements. For cable protection applications with the highest fire protection requirements.

Material

PA6 MOD V0

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL2, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Mainly for inside installation.
Filling ratio max. 70%

Technical data

Temperature range: -45°C up to +120°C
Temperature range short term up to +150°C

Wide profile / PA6-MOD-V0-B

Part no. grey	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11021577	HPAFC-17G.50	17	16,1	21,1	35	50	-
11021578	HPAFC-23G.50	23	22,0	28,5	45	50	-
11021579	HPAFC-29G.50	29	28,3	34,7	55	50	-
11021580	HPAFC-36G.25	36	35,8	42,3	60	25	-
11021581	HPAFC-48G.25	48	46,7	54,2	70	25	-

Wide profile / PA6-MOD-V0-B

Part no. black	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11021582	HPAFC-17B.50	17	16,1	21,1	35	50	-
11021583	HPAFC-23B.50	23	22,0	28,5	45	50	-
11021584	HPAFC-29B.50	29	28,3	34,7	55	50	-
11021585	HPAFC-36B.25	36	35,8	42,3	60	25	-
11021586	HPAFC-48B.25	48	46,7	54,2	70	25	-

Dimensions and specifications may be changed without prior notice.

HELUcond W-PA12-MOD-BS

corrugated tubes PA12

heavy version

W-PA12-MOD-BS

Heavy duty cable protection tube for enhanced cable protection. With increased wall thickness, highest mechanical strength also at low temperatures, excellent fatigue strength and very good self-extinguishing characteristics.

Material

PA12 MOD BS

Flammability acc. to UL 94: V2
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Excellent UV and weathering performance.
Filling ratio max. 70%

Technical data

Temperature range: -50°C up to +110°C
Temperature range short term up to +150°C

Fine profile / PA12-MOD-BS-F

Part no. black	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	Bending radius dynamic mm	PU per metre	
11023009	HPDSF-07B.50	7	6,2	10,0	15	40	50	-
11023010	HPDSF-10B.50	10	9,6	12,8	20	50	50	-
11023011	HPDSF-12B.50	12	12,0	15,7	25	60	50	-

Wide profile / PA12-MOD-BS-B

Part no. black	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	Bending radius dynamic mm	PU per metre	
11023012	HPDSC-17B.50	17	16,1	21,1	35	80	50	-
11023013	HPDSC-23B.50	23	22,0	28,3	40	100	50	-
11023014	HPDSC-29B.50	29	28,3	34,4	50	120	50	-
11023015	HPDSC-36B.25	36	35,8	42,2	60	180	25	-
11023016	HPDSC-48B.25	48	46,7	54,0	70	210	25	-
11023017	HPDSC-56B.50	56	56,3	67,2	120	260	25	-
11023018	HPDSC-70B.25	70	67,2	79,6	150	340	25	-
11023019	HPDSC-95B.10	95	91,3	106,0	230	450	10	-

Dimensions and specifications may be changed without prior notice.

ASPA-MMK fitting straight

metal male thread, short

ASPA-MMK fitting straight

One-piece connector for cable protection, suitable for all corrugated tubes NW10 - NW48 with fine and wide profile. Time saving installation and disassembly. Mounting indication: cut the corrugated tube in the bottom of wave, push in with a slight twisting movement into the fitting body until it stops and then pull back slightly.

Material

PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Excellent UV and weathering performance.
Suitable locknuts: KM
Other thread types and models available on request.

Technical data

Protection class: IP66/IP67/IP68/IP69

Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Metric thread

Part no. grey	Part no. black	Size Metric	Suitable for tube ND	Thread length mm	Spanner size mm	Packaging unit	
11023020	11023034	M12 x 1,5	10	5,0	20,0	10	-
11023021	11023035	M16 x 1,5	10	5,0	20,0	10	-
11023022	11023036	M16 x 1,5	12	5,0	22,0	10	-
11023023	11023037	M20 x 1,5	12	6,0	22,0	10	-
11023024	11023038	M20 x 1,5	17	6,0	27,0	10	-
11023025	11023039	M25 x 1,5	17	7,0	27,0	10	-
11023026	11023040	M25 x 1,5	23	7,0	36,0	6	-
11023027	11023041	M32 x 1,5	23	8,0	36,0	6	-
11023028	11023042	M32 x 1,5	29	8,0	41,0	6	-
11023029	11023043	M40 x 1,5	29	8,0	41,0	6	-
11023030	11023044	M40 x 1,5	36	8,0	52,0	4	-
11023031	11023045	M50 x 1,5	36	9,0	52,0	4	-
11023032	11023046	M50 x 1,5	48	9,0	65,0	4	-
11023033	11023047	M63 x 1,5	48	10,0	65,0	4	-

Dimensions and specifications may be changed without prior notice.

AZPA-MMK fitting strain relief straight

metal male thread, short

AZPA-MMK fitting straight

One-piece connector for cable protection, suitable for all corrugated tubes NW10 - NW48 with fine and wide profile. With integrated cable gland for additional strain relief of cables and wires. Time saving installation and disassembly. Mounting indication: cut the corrugated tube in the bottom of wave, push in with a slight twisting movement into the fitting body until it stops and then pull back slightly.

Material

PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Excellent UV and weathering performance.
Suitable locknuts: KM
Other thread types and models available on request.

Technical data

Protection class: IP66/IP67/IP68/IP69

Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Metric thread

Part no. black	Size Metric	Cable Ø from / to mm	Suitable for tube ND	Thread length mm	Spanner size mm	Packaging unit	
11023048	M12 x 1,5	3,5 - 7,0	10	6,5	16,0 / 20,0	10	-
11023049	M16 x 1,5	4,5 - 10,0	10	7,0	20,0 / 20,0	10	-
11023050	M16 x 1,5	4,5 - 10,0	12	7,0	20,0 / 22,0	10	-
11023051	M20 x 1,5	7,0 - 12,5	12	8,0	24,0 / 22,0	10	-
11023052	M20 x 1,5	7,0 - 13,0	17	8,0	24,0 / 27,0	10	-
11023053	M25 x 1,5	9,0 - 17,0	17	8,0	29,0 / 27,0	10	-
11023054	M25 x 1,5	9,0 - 17,0	23	8,0	29,0 / 36,0	6	-
11023055	M32 x 1,5	11,0 - 21,0	23	9,0	36,0 / 36,0	6	-
11023056	M32 x 1,5	11,0 - 21,0	29	9,0	36,0 / 41,0	6	-
11023057	M40 x 1,5	19,0 - 28,0	29	9,0	45,0 / 41,0	6	-
11023058	M40 x 1,5	19,0 - 28,0	36	9,0	45,0 / 52,0	4	-
11023059	M50 x 1,5	27,0 - 35,0	36	10,0	54,0 / 52,0	4	-
11023060	M50 x 1,5	27,0 - 35,0	48	10,0	54,0 / 65,0	4	-

Dimensions and specifications may be changed without prior notice.

AFPA-MM fitting straight

metal female thread

AFPA-MM fitting straight

One-piece connector for cable protection, suitable for all corrugated tubes NW10 - NW48 with fine and wide profile. Time saving installation and disassembly. Mounting indication: cut the corrugated tube in the bottom of wave, push in with a slight twisting movement into the fitting body until it stops and then pull back slightly.

Material

PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Excellent UV and weathering performance.
Other thread types and models available on request.

Technical data

Protection class: IP66/IP67/IP68/IP69

Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Metric female thread

Part no. black	Size Metric	Suitable for tube ND	Thread length mm	Spanner size mm	Packaging unit	
11023061	M12 x 1,5	10	6,75	19,8	10	-
11023062	M16 x 1,5	10	7,75	19,8	10	-
11023063	M16 x 1,5	12	7,75	21,8	10	-
11023064	M20 x 1,5	17	8,75	26,8	10	-
11023065	M25 x 1,5	17	9,75	27,0	10	-
11023066	M25 x 1,5	23	9,75	35,7	6	-
11023067	M32 x 1,5	29	10,75	40,7	6	-
11023068	M40 x 1,5	36	13,75	51,7	4	-
11023069	M50 x 1,5	48	15,75	64,5	4	-
11023070	M63 x 1,5	48	16,25	64,5	4	-

Dimensions and specifications may be changed without prior notice.

ACPA corrugated tube connector

ACPA corrugated tube connector

Connector suitable for all corrugated tubes NW12 - NW48 with fine and wide profile. Time saving installation and disassembly. Mounting indication: cut the corrugated tube in the bottom of wave, push in with a slight twisting movement into the fitting body until it stops and then pull back slightly.

Material

PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Excellent UV and weathering performance.
Connectors with mounting option ACPA-SH and reduce corrugated to smooth tube metric or PG AIPA-M / AIPA-PG available on request.

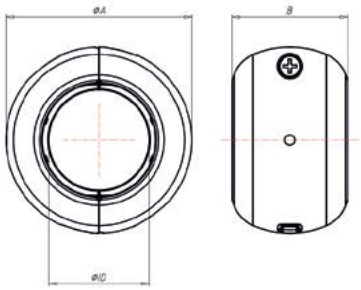
Technical data

Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Part no. grey	Part no. black	Suitable for tube ND	Outer Ø mm	Height mm	Packaging unit	
11023071	11023077	12	28,5	58,8	10	-
11023072	11023078	17	34,0	77,0	10	-
11023073	11023079	23	41,7	77,5	6	-
11023074	11023080	29	48,4	78,1	6	-
11023075	11023081	36	59,7	104,1	4	-
11023076	11023082	48	72,0	104,1	4	-

Dimensions and specifications may be changed without prior notice.

PAPA abrasion protection / connecting sleeve



PAPA abrasion protection / connecting sleeve

Abrasion protection and connecting sleeve suitable for all corrugated tubes NW10 - NW70 with fine and wide profile. For easy additional assembly on highly loaded positions with strong friction effects. Suitable als connector to reduce torsional loads on corrugated tubes in dynamic applications.

Material

PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Very good UV and weathering performance.

Technical data

Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

For fine profile

Part no. black	Suitable for tube ND	Inner Ø mm	Outer Ø mm	Width mm	Packaging unit	
11023083	10	11,1	30,0	22,8	10	-
11023084	12	13,7	33,0	21,7	10	-
11023085	17	18,3	40,0	29,4	10	-
11023086	23	25,3	52,0	34,2	6	-
11023087	29	31,3	58,0	36,1	6	-
11023088	36	38,3	69,0	41,1	4	-
11023089	48	49,9	81,0	43,3	4	-

For wide profile

Part no. black	Suitable for tube ND	Inner Ø mm	Outer Ø mm	Width mm	Packaging unit	
11023090	17	17,7	40,0	29,4	10	-
11023091	23	24,0	52,0	34,2	6	-
11023092	29	29,9	58,0	36,1	6	-
11023093	36	38,1	69,0	41,1	4	-
11023094	48	49,3	81,0	43,3	4	-
11023095	56	59,1	94,0	47,2	2	-
11023096	70	70,3	108,0	50,8	2	-

Dimensions and specifications may be changed without prior notice.

ATPA T-distributor
with mounting option

ATPA T-distributor
T-distributor with mounting option suitable for all corrugated tubes NW10 - NW48 with fine and wide profile. Time saving installation and disassembly. Mounting indication: cut the corrugated tube in the bottom of wave, push in with a slight twisting movement into the fitting body until it stops and then pull back slightly.

Material
PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note
Excellent UV and weathering performance.
As T-adapter ATPA-CA and also compatible reducer ARPA available on request.

Technical data
Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Part no. grey	Part no. black	Suitable for tube ND	Diameter mm	Height mm	Length mm	Packaging unit	
11023097	11023104	10	24,8	48,9	66,0	10	-
11023098	11023105	12	28,6	54,3	73,0	10	-
11023099	11023106	17	34,1	69,1	96,2	10	-
11023100	11023107	23	41,8	76,5	103,2	6	-
11023101	11023108	29	48,5	83,4	108,3	6	-
11023102	11023109	36	59,8	105,6	141,5	4	-
11023103	11023110	48	71,1	117,8	156,5	4	-

Dimensions and specifications may be changed without prior notice.

AYPA Y-distributor
with mounting option

AYPA Y-distributor
Y-distributor with mounting option suitable for all corrugated tubes NW10 - NW48 with fine and wide profile. Time saving installation and disassembly. Mounting indication: cut the corrugated tube in the bottom of wave, push in with a slight twisting movement into the fitting body until it stops and then pull back slightly.

Material
PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note
Excellent UV and weathering performance.
Compatible reducer ARPA available on request.

Technical data
Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Part no. grey	Part no. black	Suitable for tube ND	NW 2 / NW 3	Width mm	Height mm	Packaging unit	
11023111	11023118	10	7	42,0	67,0	10	-
11023112	11023119	12	10	47,2	73,0	10	-
11023113	11023120	17	12	54,5	85,0	10	-
11023114	11023121	23	17	65,6	104,2	6	-
11023115	11023122	29	23	80,9	109,0	6	-
11023116	11023123	36	29	94,4	130,0	4	-
11023117	11023124	48	36	115,7	144,0	4	-

Dimensions and specifications may be changed without prior notice.

COPA-H mounting clip with base

COPA-H Mounting clip with base

One-piece mounting clip suitable for all corrugated tubes NW10 - NW48 with fine and wide profile. The resealable cover connected to the clip provides high pull-out forces as well as easy and reliable installation. Offers excellent grip due ist reinforced base plate.

Material

PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Excellent UV and weathering performance.
Model COPA-S without base and fitting mounting rail with slot nuts CRPA/CXPA as well as clamps with lug CPPA and double lug CUPA available on request.

Technical data

Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Part no. grey	Part no. black	Suitable for tube ND	Width mm	Height mm	Length mm	Packaging unit	
11023125	11023132	10	22,0	25,0	31,0	10	-
11023126	11023133	12	26,0	27,0	31,0	10	-
11023127	11023134	17	35,5	34,0	36,0	10	-
11023128	11023135	23	40,0	42,0	38,5	6	-
11023129	11023136	29	46,5	48,0	40,0	6	-
11023130	11023137	36	55,0	56,0	60,0	4	-
11023131	11023138	48	67,0	68,0	60,0	4	-

Dimensions and specifications may be changed without prior notice.

BSPA system support stackable

BSPA system support stackable

Mounting clamp rugged and stackable suitable for all corrugated tubes NW17 - NW56 with fine and wide profile. It allows rotation of the corrugated tubes when installed and optimally fixes in the axial direction.

Material

PA6 MOD V0 SGA

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Excellent UV and weathering performance.
Model BSPA-BJ with ball joint as well as half-shells BHPA available on request.

Technical data

Temperature range: -50°C up to +120°C
Temperature range short term up to +150°C

Part no. black	Suitable for tube ND	Width mm	Height mm	Length mm	Packaging unit	
11023139	17	30,0	51,0	70,0	10	-
11023140	23	30,0	51,0	70,0	6	-
11023141	29	30,0	65,0	85,0	6	-
11023142	36	30,0	65,0	85,0	4	-
11023143	48	30,0	92,5	115,0	4	-
11023144	56	30,0	92,5	115,0	4	-

Dimensions and specifications may be changed without prior notice.

HELUcond W-CO-PA6-MOD-V0 corrugated tubes PA6

dividable

HELUcond W-CO-PA6-MOD-V0

Dividable cable protection tube for subsequent assembly even with pre-assembled cable harnesses including assembled plugs. For cable protection applications with the highest fire protection requirements.

Material

PA6 MOD V0

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL2, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Mainly for inside installation.
Filling ratio max. 70%
Suitable connection glands and corrugated tube holders available on request.

Technical data

Temperature range: -45°C up to +120°C

Part no. black	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11020594	2PAFM-07B.50	7	6,3	10,0	25	50	-
11020595	2PAFM-10B.50	10	8,8	13,5	30	50	-
11020596	2PAFM-11B.50	11	11,0	16,1	30	50	-
11020597	2PAFM-14B.50	14	13,2	18,7	35	50	-
11020598	2PAFM-16B.50	16	16,0	21,5	40	50	-
11020599	2PAFM-20B.50	20	20,2	25,7	50	50	-
11020600	2PAFM-23B.50	23	23,9	31,3	60	50	-
11020601	2PAFM-29B.25	29	27,3	35,5	110	25	-
11020602	2PAFM-37B.25	37	32,5	43,2	135	25	-
11020603	2PAFM-45B.25	45	43,1	54,2	140	25	-
11020604	2PAFM-70B.10	70	67,0	79,8	180	10	-
11020605	2PAFM-100B.10	100	87,5	102,5	200	10	-

Dimensions and specifications may be changed without prior notice.

HELUcond W-CO-PA12-MOD-BS-V0 corrugated tubes

PA12
dividable

HELUcond W-CO-PA12-MOD-BS-V0

Dividable cable protection tube for subsequent assembly even with pre-assembled cable harnesses including assembled plugs. With excellent mechanical properties and for cable protection applications with the highest fire protection requirements.

Material

PA12 MOD BS V0

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL2, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Mainly for outdoor installation, excellent UV and weathering performance.
Filling ratio max. 70%
Suitable connection glands and corrugated tube holders available on request.

Technical data

Temperature range: -50°C up to +110°C

Part no. black	Type	Nominal size ND	Inner Ø mm	Outer Ø mm	Bending radius static mm	PU per metre	
11020606	2PDFM-07B.50	7	6,3	10,0	20	50	-
11020607	2PDFM-10B.50	10	8,8	13,5	25	50	-
11020608	2PDFM-11B.50	11	11,0	16,1	25	50	-
11020609	2PDFM-14B.50	14	13,2	18,7	30	50	-
11020610	2PDFM-16B.50	16	16,0	21,5	35	50	-
11020611	2PDFM-20B.50	20	20,2	25,7	45	50	-
11020612	2PDFM-23B.50	23	23,9	31,3	55	50	-
11020613	2PDFM-29B.25	29	27,3	35,5	105	25	-
11020614	2PDFM-37B.25	37	32,5	43,2	130	25	-
11020615	2PDFM-45B.25	45	43,1	54,2	135	25	-
11020617	2PDFM-70B.10	70	67,0	79,8	175	10	-
11020618	2PDFM-100B.10	100	87,5	102,5	195	1	-

Dimensions and specifications may be changed without prior notice.

Anaconda Sealtite® HFX-V0 robust

HFX-V0 protection tube

Cable protection tube robust, very flexible, with optimum flame properties and high chemical resistance. Protection for cables in constant dynamic movement and by vibrations. Resistant to stone splash, snow, ice and dirt ballast, oils and fats even with changing environmental conditions.

Material

Steel, hot-dip galvanized

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL1, R22; HL1, R23; HL2, R22; HL2, R23; HL3, R23

Outer sheath material: Polyurethane
- lead-free

Note

UV resistant, suitable for inside and outside installation.
Suitable fittings: CV compact
Other types and models available on request.

Technical data

Protection class: IP 67

Temperature range: -50°C up to +105°C
Temperature range short term up to +125°C

Part no. black	Trade size inch	Inner Ø mm	Outer Ø mm	Bending radius static mm	Bending radius dynamic mm	PU per metre	
11020623	5/16"	10,1	14,4	50,0	65,0	30	-
11020624	3/8"	12,6	17,8	60,0	85,0	30	-
11020625	1/2"	16,0	21,1	75,0	110,0	30	-
11020626	3/4"	21,0	26,4	90,0	140,0	30	-
11020627	1"	26,5	33,1	120,0	170,0	30	-
11020628	1 1/4"	35,1	41,8	135,0	215,0	15	-
11020629	1 1/2"	40,3	47,8	165,0	250,0	15	-
11020630	2"	51,6	59,9	210,0	300,0	15	-

Dimensions and specifications may be changed without prior notice.

CV Compact cable-hose fitting - straight

brass

CV Compact cable-hose fitting

Brass nickel plated cable-hose fitting with double seal according to EN 45545-2 for Anaconda Sealtite® tubes. Offers a very good corrosion resistance.

Material

Brass, nickel plated
Seal: EPDM

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL1, R22; HL1, R23; HL2, R22; HL2, R23; HL3, R22; HL3, R23

Note

CV Compact hose fittings straight and 90° confer catalog cable accessories.
Other thread types and models available on request.

Technical data

Protection class: IP 66 / IP 67

Temperature range: -40°C up to +100°C

Dimensions

TD	Thread Diameter
TL	Thread Length
SZ	Spanner Size

Metric thread

Part no.	Size Metric	Suitable for tube ND	Cable Ø from / to mm	Spanner size mm	Thread length mm	Packaging unit	
11023146	M16 x 1,5	5/16	4,0 - 8,3	22,0 / 20,0 / 18,0	10,0	10	-
11023147	M20 x 1,5	5/16	4,0 - 8,3	22,0 / 20,0 / 22,0	10,0	10	-
11023148	M16 x 1,5	3/8	4,0 - 9,5	26,0 / 24,0 / 18,0	10,0	10	-
11023149	M20 x 1,5	3/8	4,0 - 9,5	26,0 / 24,0 / 22,0	10,0	10	-
11023150	M20 x 1,5	1/2	6,0 - 13,0	29,0 / 27,0 / 22,0	10,0	10	-
11023151	M25 x 1,5	1/2	6,0 - 13,0	29,0 / 27,0 / 27,0	10,0	5	-
11023152	M25 x 1,5	3/4	10,0 - 18,0	35,0 / 33,0 / 27,0	10,0	5	-
11023153	M32 x 1,5	3/4	10,0 - 18,0	35,0 / 33,0 / 35,0	12,0	5	-
11023154	M32 x 1,5	1	16,0 - 25,0	45,0 / 42,0 / 35,0	12,0	5	-
11023155	M40 x 1,5	1	16,0 - 25,0	45,0 / 42,0 / 43,0	13,0	2	-
11023156	M40 x 1,5	1 1/4	22,0 - 32,0	53,0 / 50,0 / 43,0	13,0	2	-

Dimensions and specifications may be changed without prior notice.

Anaconda Multitite® FCE-PU-V0 extra flexible

FCE-PU-V0 protection tube

Cable protection tube extra flexible with good bend radius characteristics. Robust, with optimum flame properties and high chemical resistance. For versatile applications.

Material

Steel, galvanized

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL1, R22; HL1, R23; HL2, R22; HL2, R23; HL3, R22; HL3, R23

Outer sheath material: Polyurethane
- lead-free

Note

UV resistant, suitable for inside and outside installation.
Suitable fittings and other types and models available on request.

Technical data

Protection class: IP 67

Temperature range: -50°C up to +105°C
Temperature range short term up to +125°C

Part no. black	Trade size	Inner Ø mm	Outer Ø mm	Bending radius static mm	Bending radius dynamic mm	PU per metre	
11023204	12	10,0	14,0	37,0	50,0	25	-
11023205	16	13,0	17,0	45,0	60,0	25	-
11023206	20	17,0	21,5	55,0	80,0	25	-
11023207	25	21,2	26,0	70,0	100,0	25	-
11023208	32	28,1	34,0	95,0	125,0	25	-
11023209	40	37,7	45,0	115,0	160,0	10	-
11023210	50	48,4	56,0	135,0	190,0	10	-

Dimensions and specifications may be changed without prior notice.

BPET-V0 braided hose

polyester

BPET-V0 braided hose

Polyester braided hose with excellent fire protection. For applications with the highest demands on personal protection. Effective bundling and protection of cables and conductors even in the smallest of spaces.

Material

PET V0

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL2, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Also available in grey on request.

Technical data

Temperature range: -55°C up to +150°C

Part no. black	Trade size	Min. inner Ø mm	Max. inner Ø mm	PU per metre	
11021603	4	3,0	7,0	50,0	-
11021604	6	5,0	9,0	50,0	-
11021605	8	6,0	12,0	50,0	-
11021606	10	7,0	15,0	50,0	-
11021607	12	10,0	18,0	50,0	-
11021608	15	12,0	23,0	50,0	-
11021609	20	16,0	28,0	50,0	-
11021610	25	21,0	35,0	25,0	-
11021611	30	26,0	45,0	25,0	-
11021612	40	30,0	60,0	20,0	-
11021613	50	45,0	75,0	20,0	-

Dimensions and specifications may be changed without prior notice.

WPET-SCF woven hose, selfclosing, high flame resistant

polyester

WPET-SCF woven hose

Polyester woven hose, self-rolling and overlapping for easy bundling of cables and conductors. Due to the side slits, it is also suitable for subsequent bundling. Cable and wire bundling with intermediate exits of individual conductors also possible. Excellent cut and abrasion resistance.

Material

PET V0

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL2, R22; HL3, R23

- halogen-free
- cadmium-free

Note

Also available in grey on request.

Technical data

Temperature range: -55°C up to +150°C

Part no. black	Trade size	Min. inner Ø mm	Max. inner Ø mm	PU per metre	
11021808	8	5,0	8,0	50,0	-
11021809	10	8,0	10,0	50,0	-
11021810	13	10,0	13,0	50,0	-
11021811	16	13,0	16,0	25,0	-
11021812	19	16,0	19,0	25,0	-
11021813	25	22,0	25,0	25,0	-
11021814	29	26,0	29,0	25,0	-
11021815	32	29,0	32,0	25,0	-
11021816	38	32,0	44,0	25,0	-
11021817	50	44,0	50,0	25,0	-

Dimensions and specifications may be changed without prior notice.

HTP protection tube

high temperature protection

HTP

This product is extremely heat resistant.
HTP has a high insulation factor and, due to the iron oxide containing silicone sheath, is resistant to small quantities of liquid steel.
HTP also protects against burn injuries from steam tubes, hot air or hot water wires.
For rail vehicles, cable protection against sparks and heat, for example for cables for brake sensors and heating systems.

Material

Interior sheath of knitted glass-fibre braid

Silicone sheath (contains iron oxide)

Flammability acc. to UL 94: V0
Fire protection standard: EN 45545-2
Level: HL1, R22; HL1, R23; HL2, R22; HL2, R23; HL3, R22; HL3, R23

- halogen-free
- high oil resistance

Colour: red

Technical data

Permanent load: +260°C
Short-time load: +800°C
(up to approx. 20 minutes)
Loading moment: +1640°C
(approx. 15-30 seconds)

Protection tube

Part no. Tube version	Inner Ø mm	Width mm	PU per metre	
93630	6,0	-	15,0	-
93632	10,0	-	15,0	-
904924	13,0	-	15,0	-
93634	19,0	-	15,0	-
93635	22,0	-	15,0	-
93636	25,0	-	15,0	-
93637	32,0	-	15,0	-
93638	38,0	-	15,0	-
93639	44,0	-	15,0	-
93640	57,0	-	15,0	-
93641	64,0	-	15,0	-
93642	76,0	-	15,0	-
93643	89,0	-	15,0	-
93644	102,0	-	15,0	-

Dimensions and specifications may be changed without prior notice.

Matching accessory:

- **LT Conduit gland - straight**

  confer catalog cable accessories and online: www.helukabel.com/94151en

- **necessary clamp rings**

  confer catalog cable accessories and online: www.helukabel.com/905439en

DERAY®-ZOH125 heat shrink 2:1

polyolefine - thin walled

DERAY®-ZOH125 heat shrink tube

Heat shrinkable tube for insulation of electrical components and for mechanical and enviromental protection. Low smoke generation with excellent fire safety characteristics. Flame retardant, flexible and resistant to liquids.

Material

Polyolefine, modified

Colour: black
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free
- lead-free

Note

Form of shipment: spool
Also available in yellow, white and as a printed version on request.

Technical data

Temperature range: -40°C up to +125°C
Shrinking temperature +120°C

Part no. black	Inner Ø before shrinkage mm	Wall thickness mm	Inner Ø after shrinkage mm	PU per metre	
11023157	2,4	0,51	1,2	100,0	-
11023158	3,2	0,51	1,6	100,0	-
11023159	4,8	0,51	2,4	75,0	-
11023160	6,4	0,64	3,2	75,0	-
11023161	9,5	0,64	4,8	75,0	-
11023162	12,7	0,64	6,4	50,0	-
11023163	19,0	0,76	9,5	30,0	-
11023164	25,4	0,89	12,7	30,0	-
11023165	38,1	1,02	19,0	30,0	-

Dimensions and specifications may be changed without prior notice.

DERAY®-ZHF125 marking tube 2:1

polyolefine - thin walled

DERAY®-ZHF125 marking tube

Heat shrinkable tube for cable identification. Low smoke generation with excellent fire safety characteristics. Flame retardant, flexible and resistant to liquids.

Material

Polyolefine, modified

Colour: yellow
Fire protection standard: EN 45545-2
Level: HL3, R22; HL3, R23

- halogen-free
- cadmium-free
- lead-free

Note

Form of shipment: spool
Available in white and as a printed version on request.
Type DMS NH - sections on rolls - also available on request.

Technical data

Temperature range: -40°C up to +125°C
Shrinking temperature +120°C

Part no. yellow	Inner Ø before shrinkage mm	Wall thickness mm	Inner Ø after shrinkage mm	PU per metre	
11023166	2,4	0,51	1,2	100,0	-
11023167	3,2	0,51	1,6	100,0	-
11023168	4,8	0,51	2,4	75,0	-
11023169	6,4	0,64	3,2	75,0	-
11023170	9,5	0,64	4,8	75,0	-
11023171	12,7	0,64	6,4	50,0	-
11023172	19,0	0,76	9,5	30,0	-
11023173	25,4	0,89	12,7	30,0	-
11023174	38,1	1,02	19,0	30,0	-

Dimensions and specifications may be changed without prior notice.

TY-RAP®-RW UV resistant cable tie with steel lug lock

TY-RAP®-RW UV resistant

Smooth, notchless cable tie with steel lug lock made of corrosion-resistant, non-magnetic steel and rounded edges. This technology enables the cable tie to offer excellent binding properties even under most rigorous conditions such as heat, cold, humidity etc. It is resistant to vibrations and external influences.

Material

Polyamide 6.6
UV-resistant

- halogen-free
- silicone-free

Technical data

Temperature range: -60°C up to +105°C

Flammability acc. to UL 94: V2

Test Result EN 45545-2: HL2 for R22 and R23 equirement
Test Result NF F 16-101: I3-F2
Test result IEC/EN 62275: Edition 2.0

Part no. black	Type	Length mm	Width mm	Min. Bundle Ø mm	Max. Bundle Ø mm	Capacity N	Packaging unit	
11007539	TY23MX-RW	92,0	2,4	1,5	22,0	80,0	1000	-
11007540	TY232MX-RW	203,0	2,4	1,5	51,0	80,0	1000	-
11007541	TY234MX-RW	356,0	2,4	1,5	102,0	80,0	1000	-
11007542	TY24MX-RW	140,0	3,6	2,0	35,0	180,0	1000	-
11007543	TY242MX-RW	204,0	3,6	2,0	51,0	180,0	1000	-
11007544	TY26MX-RW	284,0	3,6	2,0	76,0	130,0	1000	-
11007545	TY244MX-RW	368,0	3,6	2,0	102,0	130,0	1000	-
11007546	TY25MX-RW	186,0	4,8	3,0	48,0	220,0	1000	-
11007547	TY253MX-RW	295,0	4,8	3,0	78,0	220,0	1000	-
11007548	TY28MX-RW	361,0	4,8	3,0	102,0	220,0	1000	-
11007549	TY271MX-RW	150,0	7,6	6,0	31,0	540,0	500	-
11007550	TY272MX-RW	223,0	6,9	6,0	51,0	540,0	500	-
11007551	TY277MX-RW	617,0	7,0	6,0	177,0	540,0	500	-
11007552	TY27MX-RW	340,0	6,9	6,0	102,0	540,0	500	-
11007553	TY29MX-RW	771,0	8,2	6,0	229,0	540,0	500	-

Dimensions and specifications may be changed without prior notice.

TY-RAP®-RW flame resistant cable tie with steel lug lock

TY-RAP®-RW flame resistant

Smooth, notchless cable tie with steel lug lock made of corrosion-resistant, non-magnetic steel and rounded edges. This technology enables the cable tie to offer excellent binding properties even under most rigorous conditions such as heat, cold, humidity etc. It is resistant to vibrations and external influences.

Material

Polyamide 6.6

- halogen-free
- silicone-free

Technical data

Temperature range: -20°C up to +65°C

Flammability acc. to UL 94: V0

Test Result EN 45545-2: HL3 for R22 and R23 equirement
Test Result NF F 16-101: I3-F1

Part no. white	Type	Length mm	Width mm	Min. Bundle Ø mm	Max. Bundle Ø mm	Capacity N	Packaging unit	
11007569	TY23MFR-RW	92,0	2,4	1,5	22,0	80,0	1000	-
11007570	TY232MFR-RW	203,0	2,4	1,5	51,0	80,0	1000	-
11007571	TY24MFR-RW	140,0	3,6	2,0	35,0	180,0	1000	-
11007572	TY25MFR-RW	186,0	4,8	3,0	48,0	220,0	1000	-
11007573	TY28MFR-RW	360,0	4,8	3,0	102,0	220,0	500	-
11007574	TY27MFR-RW	340,0	7,0	4,8	95,0	540,0	100	-

Dimensions and specifications may be changed without prior notice.

Fire Protection Requirements

	Cable-Ø mm	Test methods	Europe EN 45545-2: 2013 Indoor cable	Europe EN 50264: 2008
Vertical flame spread		EN 60332-1-2	50 > L ≤ 540 mm	50 > L ≤ 540 mm
		NF C 032-070, 2.1	-	-
Vertical flame spread, bundled	D ≥ 12	EN 50266-2-4	L ≤ 2.5 m	L ≤ 2.5 m
	6 < D < 12	EN 50266-2-5 EN 50305, 9.1.1	L ≤ 2.5 m	L ≤ 2.5 m
	D ≤ 6	EN 50305, 9.1.2	L ≤ 1.5 m	L ≤ 1.5 m
		NF C 032-070, 2.2	-	-
Smoke density		EN 61034-2	HL1: T ≥ 25 % HL2: T ≥ 50 % HL3: T ≥ 70 %	T ≥ 70 %
		X10-702-2	-	-
Toxicity		NF X70-100	-	-
		EN 50305, 9.2	HL1: ITC ≤ 10 HL2: ITC ≤ 10 HL3: ITC ≤ 6	ITC ≤ 3
Corrosivity of combustion gases		EN 50267-2-2	-	pH ≥ 4.3 C ≤ 10 µS/mm
Halogen level		EN 50267-2-1	-	HCl + HBr ≤ 0.5 %
Fluorine level		EN 60684-2, 45.2	-	HF ≤ 0.1 %

	Europe EN 50306: 2002	D, A, CH DIN 5510-2: 2009 indoor cable	F, B NF F 16-101: 1988 indoor cable	I UNI CEI 11170-3: 2005
Vertical flame spread	50 > L ≤ 540 mm	50 > L ≤ 540 mm	-	50 > L ≤ 540 mm
	-	-	50 > L ≤ 540 mm	-
Vertical flame spread, bundled	L ≤ 2.5 m	L ≤ 2.5 m	-	L ≤ 2.5 m
	L ≤ 2.5 m	L ≤ 2.5 m	-	L ≤ 2.5 m
	L ≤ 1.5 m	L ≤ 1.5 m	-	L ≤ 1.5 m
	-	-	L ≤ 300 mm	-
Smoke density	HL1: no requirement HL2: T ≥ 60 % HL3: T ≥ 70 %	T ≥ 60 %	-	T ≥ 70 %
	-	-	I.F. ≤ 20	-
Toxicity	-	-		-
	HL 1 HL 2 HL 3 Sheath – ITC ≤ 5 ITC ≤ 3 Insula-tion – ITC ≤ 10 ITC ≤ 6	refers to EN 50264 resp. EN 50306	-	LR1 LR2 LR3 LR4 Sheath ITC ≤ 5 ITC ≤ 5 ITC ≤ 5 ITC ≤ 3 ≤ 5 ITC ≤ 3 Insula-tion ITC ≤ 10 ITC ≤ 10 ITC ≤ 10 ITC ≤ 6
Corrosivity of combustion gases	pH ≥ 4.3 C ≤ 10 µS/mm	pH ≥ 4.3 C ≤ 10 µS/mm	-	pH ≥ 4.3 C ≤ 10 µS/mm
Halogen level	HCl + HBr ≤ 0.5 %	HCl + HBr ≤ 0.5 %	-	HCl + HBr ≤ 0.5 %
Fluorine level	HF ≤ 0.1 %	HF ≤ 0.1 %	-	-

Keyword index / Type index

Helukabel Numerical Index

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NOTES

Technical modifications

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The length marking, which cannot be calibrated, is an aid, e.g. for easy material allowance determination or for determination of the length remaining on the drum. Deviation of the wire length shown by the marking is up to 1%. Incomplete length markings or length markings missing from sections, deviations of the cable length shown by the length marking do not substantiate any legal obligation whatsoever. Only use calibrated measurement devices to determine wire length.

Safety notice

The cables and wires described in the catalogue are produced in accordance with national and international standards, as well as plant standards; application safety, as stipulated in the safety directives, standards, and statutory regulations, as amended, are provided. Following proper installation and usage guidelines, the possibility of product-specific dangers can be excluded. This catalogue describes general information for each product's use. Independent of the above, the applicable DIN VDE specifications apply. Installation and processing must only be executed by qualified electricians.

Our General Terms of Delivery and Payment can be viewed at www.helukabel.com.

For more information, please contact our product manager:

Mark Lemke
Head of Sales East
Tel: +49 7150 9209 810
Fax: +49 7150 9209 5810
Mobile: +491712476829
Mark.Lemke@helukabel.de

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